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IMPLEMENTATION COMPLETION AND RESULTS REPORT

IDA-5305-SN

ON A

CREDIT

IN THE AMOUNT OF SDR 26.5 MILLION

(US\$ 40 MILLION EQUIVALENT)

TO THE

Ministry of Economy and Finance

FOR THE

SN: Casamance Development Pole Project

May 10, 2021

Social Global Practice  
Africa West Region

## CURRENCY EQUIVALENTS

(Exchange Rate Effective March 24, 2021)

Currency Unit = CFAF

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CFAF 553 = US\$1

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US\$1.42 = SDR 1

FISCAL YEAR

July 1 - June 30

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## ABBREVIATIONS AND ACRONYMS

AGEROUTE	<i>Agence de Gestion des Routes</i> (Road Management Agency)
AGETIP	<i>Agence d'Exécution Travaux d'Intérêt Public</i> (Public Works Agency)
ANRAC	<i>Agence Nationale pour la Relance des Activités Economiques et Sociales en Casamance</i> (National Agency for the Reconstruction of Casamance)
ARD	<i>Agence Régionale de Développement</i> (Regional Development Agency)
CAADP	Comprehensive African Agriculture Development Programme
CAS	Country Assistance Strategy
PPDC	<i>Projet Pole de Développement de la Casamance</i> (Casamance Development Pole Development Project)
CBA	Cost Benefit Analysis
CEA	Cost Effectiveness Analysis
CEC	Citizen's Engagement Committee
CEDP	Casamance Economic Development Project (IDA, under preparation)
CPS	Country Partnership Strategy
CPF	Country Partnership Framework
CR	<i>Communauté Rurale</i> (Rural Community)
DAGE	<i>Direction de l'Administration Générale et de l'Équipement</i> (General Administration and Equipment Directorate)
DAPSA	<i>Direction de l'Analyse, de la Prévision et des Statistiques Agricoles</i> (Directorate of Agriculture Analyses, Forecasts and Statistics) (MAER)
DDR	Disarmament, Demobilization and Reintegration
DRC	Domestic Resource Cost
ESIA	Environmental and Social Impact Assessment
ESMF	Environmental and Social Management Framework
EFA	Economic and Financial Analysis
FA	Financing Agreement
FER	<i>Fonds d'Entretien Routier</i> (Road Maintenance Fund)
FM	Financial Management
FNDASP	<i>Fonds National de Développement Agro-Sylvo Pastoral</i> (National Agro-Sylvo Pastoral Development Fund)
GEMS	Geo-Enabling for Monitoring and Supervision
GHG	Greenhouse Gas
GoS	Government of Senegal
GRM	Grievance Redress Mechanism
HIMO	<i>Haute Intensité de Main d'œuvre</i> (High Labor Intensive Manpower)
ICT	Information, Communication and Technology
IDA	International Development Association
IDP	Internally Displaced Population
IEPB	Integrated Economic Platform of Bignona
IRR	Internal Rate of Return
ISRA	<i>Institut Sénégalais de Recherche Agricole</i> (Senegalese Institute for Agricultural Research)
KPI	Key Project Indicator

LDP	Local Development Plan
MAER	<i>Ministère de l'Agriculture et de l'Équipement Rural</i> (Ministry of Agriculture and Rural Equipment)
MCTDAT	<i>Ministère des Collectivités Territoriales, du Développement et de l'Aménagement des Territoires</i> (Ministry of Territorial Communities and Local Development)
MDG	Millennium Development Goal
MDOD	<i>Maîtrise d'Ouvrage Déléguée</i> (Delegated Work Contracting)
M&E	Monitoring and Evaluation
MITTD	<i>Ministère des Infrastructures, des Transports Terrestres et du Désenclavement</i> (Ministry of Infrastructure, Land Transport and Road Access)
MP	Micro-Project
NPV	Net Present Value
PAD	Project Appraisal Document
PDC	<i>Plan de Développement Communal</i> (Communal Development Plan)
PDO	Project Development Objective
PIM	Project Implementation Manual
PIU	Project Implementation Unit
PMP	Pest Management Plan
PRACAS	<i>Programme d'Accélération de la Cadence de l'Agriculture Sénégalaise (2014-17)</i> (Program to Accelerate Agriculture Development Pace)
PRSP	Poverty Reduction Strategy Paper
PSE	Plan Sénégal Émergent (2014-18) (Senegal Emergent Plan)
RAP	Resettlement Action Plan
RPF	Resettlement Policy Framework
SODAGRI	<i>Société de Développement Agricole et Industriel du Sénégal</i> (Agricultural and Industrial Development Agency of Senegal)
SME	Small and Medium-Size Enterprise
SNDES	<i>Stratégie Nationale de Développement Économique et Social (2013-2017)</i> (National Strategy for Economic Development)
SSA	Sub-Saharan Africa
WBG	World Bank Group

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**DATA SHEET**

**BASIC INFORMATION**

**Product Information**

Project ID	Project Name
P125506	SN:Casamance Development Pole Project
Country	Financing Instrument
Senegal	Investment Project Financing
Original EA Category	Revised EA Category
Partial Assessment (B)	Partial Assessment (B)

**Organizations**

Borrower	Implementing Agency
Ministry of Economy and Finance	Project Implementation Unit (PIU), Steering Committee

**Project Development Objective (PDO)**

Original PDO

The Project Development Objectives (PDO) are to: (i) enhance the agricultural productivity of youth and female farmers for selected crops; and (ii) improve transport linkages in isolated rural communities in targeted areas of the Casamance region.



**FINANCING**

	Original Amount (US\$)	Revised Amount (US\$)	Actual Disbursed (US\$)
<b>World Bank Financing</b>			
IDA-53050	40,000,000	40,000,000	36,742,287
<b>Total</b>	<b>40,000,000</b>	<b>40,000,000</b>	<b>36,742,287</b>
<b>Non-World Bank Financing</b>			
Borrower/Recipient	6,000,000	0	0
<b>Total</b>	<b>6,000,000</b>	<b>0</b>	<b>0</b>
<b>Total Project Cost</b>	<b>46,000,000</b>	<b>40,000,000</b>	<b>36,742,287</b>

**KEY DATES**

Approval	Effectiveness	MTR Review	Original Closing	Actual Closing
25-Sep-2013	20-May-2014	19-Sep-2016	30-Jun-2019	30-Sep-2020

**RESTRUCTURING AND/OR ADDITIONAL FINANCING**

Date(s)	Amount Disbursed (US\$M)	Key Revisions
04-Sep-2017	22.55	Change in Results Framework Change in Components and Cost
23-May-2019	31.61	Change in Implementing Agency Change in Results Framework Change in Loan Closing Date(s) Reallocation between Disbursement Categories
25-Jun-2020	35.92	Change in Loan Closing Date(s)

**KEY RATINGS**

Outcome	Bank Performance	M&E Quality
Moderately Satisfactory	Moderately Satisfactory	Modest



**RATINGS OF PROJECT PERFORMANCE IN ISRs**

No.	Date ISR Archived	DO Rating	IP Rating	Actual Disbursements (US\$M)
01	10-Feb-2014	Moderately Satisfactory	Moderately Satisfactory	.91
02	18-Aug-2014	Moderately Satisfactory	Moderately Satisfactory	2.27
03	19-Jan-2015	Moderately Unsatisfactory	Moderately Satisfactory	4.42
04	23-Jul-2015	Moderately Satisfactory	Satisfactory	5.88
05	11-Jan-2016	Moderately Satisfactory	Moderately Satisfactory	7.62
06	28-Jun-2016	Moderately Satisfactory	Moderately Satisfactory	9.74
07	23-Dec-2016	Moderately Satisfactory	Moderately Satisfactory	14.13
08	21-Jun-2017	Moderately Satisfactory	Satisfactory	20.27
09	17-Dec-2017	Moderately Satisfactory	Satisfactory	23.55
10	04-Jun-2018	Satisfactory	Satisfactory	26.35
11	01-Nov-2018	Satisfactory	Satisfactory	28.90
12	02-Jan-2019	Satisfactory	Satisfactory	30.52
13	04-Aug-2019	Moderately Satisfactory	Moderately Satisfactory	32.33
14	16-Dec-2019	Moderately Satisfactory	Moderately Satisfactory	33.57
15	25-Jun-2020	Moderately Satisfactory	Moderately Satisfactory	35.92

**SECTORS AND THEMES**

**Sectors**

Major Sector/Sector	(%)
<b>Agriculture, Fishing and Forestry</b>	<b>43</b>
Crops	32
Other Agriculture, Fishing and Forestry	11



<b>Social Protection</b>	<b>3</b>
Social Protection	3
<b>Transportation</b>	<b>32</b>
Rural and Inter-Urban Roads	32
<b>Industry, Trade and Services</b>	<b>22</b>
Agricultural markets, commercialization and agri-business	22
<b>Themes</b>	
Major Theme/ Theme (Level 2)/ Theme (Level 3)	(%)
<b>Private Sector Development</b>	<b>100</b>
Jobs	100
<b>Finance</b>	<b>8</b>
Finance for Development	8
Agriculture Finance	8
<b>Social Development and Protection</b>	<b>4</b>
Fragility, Conflict and Violence	4
Conflict Prevention	2
Post-conflict reconstruction	2
<b>Urban and Rural Development</b>	<b>77</b>
Rural Development	77
Rural Markets	8
Rural Infrastructure and service delivery	64
Land Administration and Management	5



<b>Environment and Natural Resource Management</b>	<b>10</b>
Renewable Natural Resources Asset Management	10
Biodiversity	5
Landscape Management	5

**ADM STAFF**

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## I. PROJECT CONTEXT AND DEVELOPMENT OBJECTIVES

### A. Context at Appraisal

- 1. The decade preceding project appraisal witnessed limited progress in reducing inequalities in Senegal, indicating that economic growth had been insufficiently pro-poor.** At the time PPDC was designed, Senegal had enjoyed one of the highest rates of economic growth in Africa - over 6 percent in 2014. Yet, like in other parts of Africa, positive developments had been uneven. Growth had left many areas and groups behind, especially those that experienced state and societal fragility such as Casamance, the PPDC's target region<sup>1</sup>. During the decade of the 2000s, the inequality of consumption, as measured by the Gini coefficient, had been resistant to change, staying at around 0.40 (close to the SSA average), even in the high growth period of 2001-2005. Inequality of assets actually became more pronounced at the beginning of the 2010s, especially in rural areas, where it increased from 0.38 to 0.41. This shed light on the important and persistent inequalities (gender, regional and rural) in Senegal in accessing basic services and productive inputs that undermined the capacity to accumulate human capital and pursue economic opportunities. More than half of the population lacked access to sanitation services. Adult literacy rate stood at 43 percent, well below both the SSA average (63 percent) with huge disparity between men (53 percent) and women (33 percent), and only 7.2 years of schooling could be expected in Senegal vs. 8.1 in SSA, as reported by the Human Capital Index. Access and quality of learning were worse for the poorest children and in rural areas, as evidenced by enrolment rates (54 percent in rural areas against 83 percent in Dakar).<sup>2</sup>
- 2. Demand for greater autonomy, combined with grievances against the national government emanating in part from relative under development compared to the rest of Senegal, helped motivate separatist violence in Casamance between 1982 and 2004.** The conflict erupted in 1982 into what was once Africa's longest-running violent conflict. Following over two decades of conflict, with roughly a thousand resulting deaths and tens of thousands of Internally Displaced Populations (IDPs)<sup>3</sup>, a peace process was started with an initial agreement reached in 2004. The agreement outlined the demobilization and reintegration of combatants, return of refugees and IDPs, and economic reconstruction for Casamance. It also called for political dialogue between the separatists and the Senegalese government to develop options for a long-lasting resolution of the conflict. After his 2012 election victory, President Macky Sall framed the peace process in Casamance as a national priority. In April 2014, another ceasefire was announced following peace talks between the Government and the Independence Movement. Development initiatives outlined by the President included a railway to improve economic access between the north and south, tax incentives for tourism in Casamance, and infrastructure projects such as the Senegambia Bridge<sup>4</sup>.
- 3. Despite progress, many of the factors which fueled the conflict persisted at the time of appraisal, including**

<sup>1</sup> Casamance is located in the extreme southwest of the country, north of Guinea-Bissau. It covers a total area of approximately 28,400 km<sup>2</sup>, one-seventh of the total area of Senegal, and is home to a population of approximately 1.5 million inhabitants (5 percent of the national population of about 16 million). Ecologically, its ecosystem is dominated by rivers, forests, and mangroves, compared with the Sahelian terrain in the northern part of Senegal. Casamance has three administrative regions (Ziguinchor, Kolda and Sédhiou) and 9 departments. Most of Senegal's Christian and Animist populations are concentrated in Casamance, accounting for about 77 percent of Christians and 61 percent of those who engaged in traditional religious practices. Sources: Different sources compiled for this report.

<sup>2</sup> The adult literacy rate (percent of people aged 15 years old and above) for Senegal is taken for the latest available year before project appraisal (2013) (source: <https://www.macrotrends.net/countries/SEN/senegal/literacy-rate>). The data for the year 2013 is taken for SSA for the sake of comparison (source: [www.macrotrends.net/countries/SSF/sub-saharan-africa/literacy-rate](http://www.macrotrends.net/countries/SSF/sub-saharan-africa/literacy-rate)). For the same year, the enrolment rates and expected years of schooling are based on the data from the 2013 Human Capital Index, World Bank, and the reference source for difference between men and women literacy is from <https://countryeconomy.com/demography/literacy-rate/senegal>.

<sup>3</sup> Estimates by the World Food Program in 2004 place the number of Casamance IDPs at 40,000 to 64,000. These estimates, when compared to a 1988 census, and, allowing for population growth, put the ratio of IDPs at approximately one out of every six people in Ziguinchor in 2004.

<sup>4</sup> The Senegambia bridge took five years to complete; it opened in 2019.



**social, cultural and economic differences between the people of Casamance and the rest of Senegal reflecting historical consequences, as well as geographic isolation.** Lower than average development outcomes in the region, compared to national averages, were both a root cause and a consequence of decades of conflict and ongoing fragility. Although impressive progress had been realized to bring peace and stability in the region, as well as investments to improve the connection with the rest of Senegal, the effects of its history of conflict continued to be widespread at the beginning of the 2010 decade. Casamance's three administrative regions were among the poorest in the country, with poverty levels considerably higher than the national average. It had food insecurity challenges, with 20 percent of the population having reduced or minimally adequate food consumption, and a 16.5 percent prevalence of chronic malnutrition.<sup>5</sup> Impacts were also felt at the community level, where social bonds had been ruptured by forced displacement. Informal institutions that regulated many parts of village life were disrupted, leaving them less able to prepare for and respond to other risks. Perceptions of unfairness and inequality, which helped motivate the conflict in the first place, were also exacerbated by the conflict, thereby undermining trust in government institutions amongst the local population. Finally, the conflict had exacerbated the traditional religious and ethnic differences between Casamance, which is ethnically Jola and has a greater non-Muslim population than the rest of the country, which is majority ethnically Wolof and predominantly Muslim.

**4. Despite its potential, Casamance agriculture suffered from production and marketing constraints, as well as environmental challenges.** With good rainfall (1000-1200 mm annually) and fertile soil Casamance has potential to become a leading agricultural producer for Senegal. A prominent crop has traditionally been rice, cultivated in rainfed and irrigated conditions, both as a subsistence crop to contribute to food self-sufficiency and a commercial crop with potential to substitute for imports. Horticulture crops (vegetables and fruits) had also been important in Casamance as diversification crops, as well as the niche activity of oyster production in river estuaries. However, agriculture production, especially rice production, suffered as a result of decades of conflict, impacting not only rice yields but the siltation and salinization of rice growing areas resulting from disuse. The growth of vegetable production was also impacted by a lack of irrigation facilities and inputs due to the lack of commercial facilities to that would enable to assemble, process and market agricultural goods. Oyster production was also hampered by lack of harvesting tools (cages and traps) and boats to reach remote areas. Finally, Casamance had fallen behind in terms of good agriculture practices as extension services had been limited by the insecurity resulting from the conflict. Producers were not well organized to access inputs and negotiate with off-takers to market their production. Off-takers themselves faced problems in accessing production due in part to the deterioration of transport infrastructure.

**5. Casamance's road infrastructure was in disrepair as it had suffered from the conflict; rural areas faced difficulties in evacuating production and accessing social services.** In 2009 less than 75 percent of the population had access to basic social services and barely 50 percent of the population had access to roads that were passable year round.<sup>6</sup> The poor index of accessibility reflected the fact that major road links were in disrepair. The poor state of the road infrastructure in turn created a major hurdle to access producing area, therefore undermining the supply of inputs and the export of products. Further, poor infrastructure was also a prominent hurdle to accessing social services.

**6. PPDC was designed to address these interlinked challenges by improving agriculture production and**

<sup>5</sup> Source : 'Enquête rurale sur l'Agriculture, la Sécurité alimentaire et la Nutrition' (ERASAN, 2014), Secrétariat Exécutif du Comité National de Sécurité Alimentaire (SECNSA).

<sup>6</sup> The reference situation (2009) is based on an index of average access to basic socio-economic services, i.e., health, education and road services. The average index of access to basic social services for Casamance was estimated at 375 vs. 500, or a coverage rate of 75 percent of the population. The coverage rates varied widely depending on the service: access to health care was the most limited with less than 50 percent of the population covered by health services; access to education was higher with about 75 percent of the population having effective access to education; and access to roads was one of the major development issue with less than 50 percent of the population having effective access to roads year-round. In Casamance the index varied widely per region with Ziguinchor being well served but Kolda and Sédhiou being in the pockets of vulnerability. Source : AGEROUTE, *Etude sur l'Indice d'Accessibilité Rurale en Casamance*, Jan. 2019.



**transport infrastructure while enhancing social cohesion and trust in government institutions.** PPDC's higher level objective was to help reduce the vulnerability of the people of Casamance, with a focus on youth and women, by broadening their income-generating opportunities in order to address the core drivers of the Casamance conflict. The project aimed to support peace in Casamance by promoting commercial agriculture value chains, through a broad-based regional development pole approach with a twin focus on: (i) key agriculture products (rice, horticulture crops, oysters) which had considerable potential to raise incomes and diversify the rural economy of Casamance; and (ii) the development of economic platforms and rural roads to facilitate the links between production basins and small producers (especially youth and women) and markets. The approach built on the GoS strategy of decentralization and spatial development through growth poles<sup>7</sup>, with a focus on institution-building and the need to serve vulnerable groups such as youth and women.

7. **PPDC aimed to support the Bank's partnership strategy and GoS' national development strategy.** The project was aligned with the Country Partnership Strategy (CPS, FY13-17) which focused on improving governance and building resilience with two pillars (i) accelerating growth and employment and creating fiscal space, and (ii) improving service delivery. The CPS was consonant with GoS' priorities as articulated in the *Stratégie Nationale de Développement Economique et Social* (SNDES, 2013-2017) and *Plan Sénégal Emergent* (PSE, 2014-18). GoS' strategy aimed to promote sustainable and broad-based economic growth and social inclusion through growth poles and decentralization. As its implementation unfolded, PPDC continued to reflect the priorities of the Country Partnership Framework (CPF, FY20-24), notably its focus area on increased resilience and sustainability in the context of growing social equity, climatic and transparency risks. In agriculture, PPDC was aligned with GoS's *Programme d'Accélération de la Cadence de l'Agriculture Sénégalaise* (PRACAS, 2014-17). At the international level, PPDC reflected the orientations of (i) the Comprehensive African Agriculture Development Programme (CAADP, 2011) that aimed to increase the competitiveness of African agriculture, and (ii) the UN Sustainable Development Goals (SDGs) with a focus on food security.

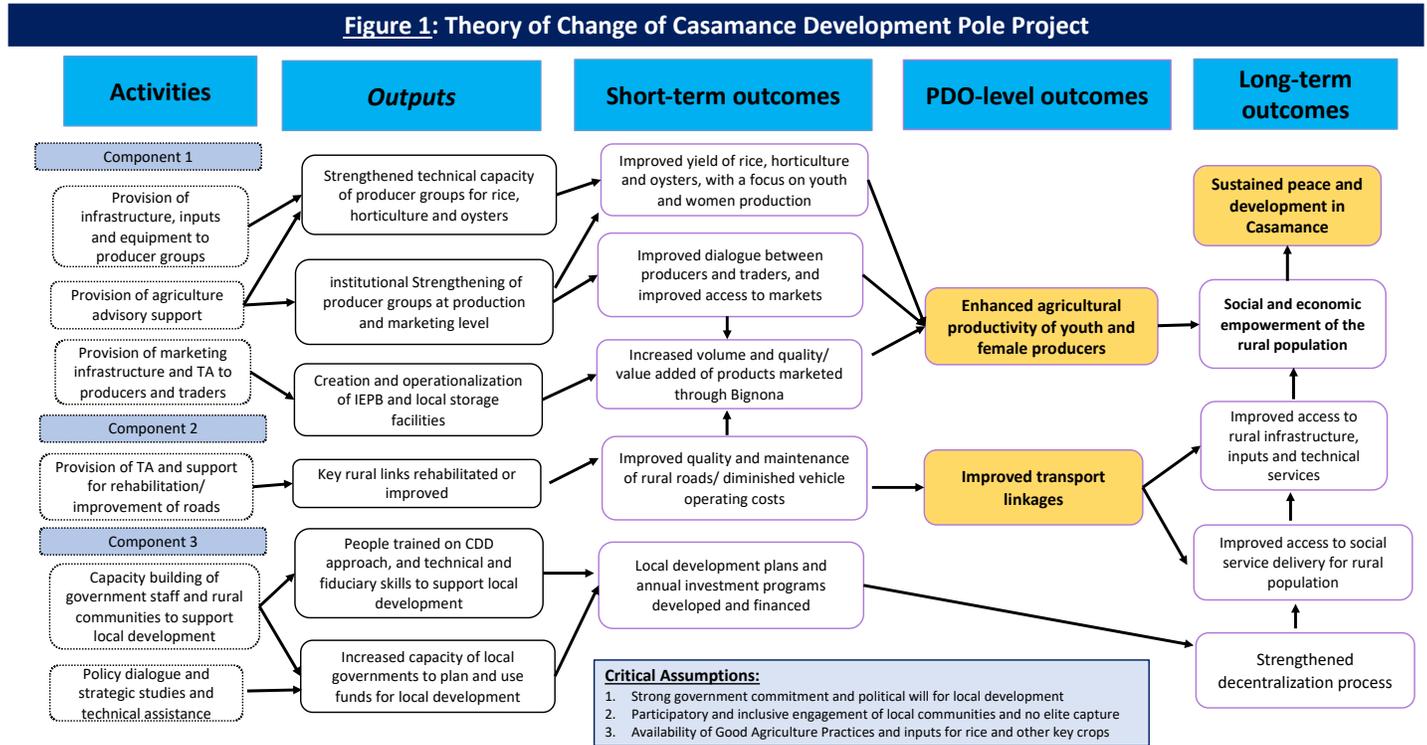
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<sup>7</sup> See Acte III of the decentralization instituted by law of December 19, 2013 on the General Code for Local Government.



### Theory of Change (Results Chain)

8. The PPDC’s Theory of Change (TOC) is depicted in Figure 1 below



### Development Objective (PDO)

9. The Project Development Objective (PDO) focused on agricultural development and improved rural connectivity; it did not capture the full extent of the project outcomes. The PDO was twofold: (i) enhance the agricultural productivity of youth and female farmers for selected crops (Component 1); and (ii) improve transport linkages in isolated rural communities in targeted areas of the Casamance region (Component 2). The PDO remained unchanged during the entire project implementation period. The PDO’s focus on agricultural development and improved rural connectivity, however, did not capture the full extent of the project outcomes. One area that should have been mentioned as part of the PDO is the promotion of community participation and institution-building with the post-conflict peacebuilding objective under Component 3. The corresponding outcome is assessed as part of the efficacy section.

### Key Expected Outcomes and Outcome Indicators

10. Progress toward achieving the PDO was intended to be monitored through the following outcome indicators (OIs): (i) average increase in rain-fed rice yield (tons per hectare); (ii) average revenue per hectare of horticulture (US\$); (iii) volume of local products handled by the Integrated Economic Platform of Bignona (IEPB) (tons per year); (iv) share of rural population in the project area with access to an all-season road (percent); and (v) direct project beneficiaries (number) of which female (percentage) and youth (percentage).

11. The main intermediate results (IR) indicators were: (i) targeted farmers satisfied with PPDC’s agricultural and



rural advisory services (percentage); (ii) people in the project area aware of the project's beneficiary targeting criteria (percentage); (iii) rice valleys rehabilitated/ developed (hectares); (iv) women and youth groups provided with equipment and input packages for rice, horticulture and oyster production (number); (v) area provided with irrigation services for horticulture (hectares); (vi) Bignona platform constructed and functional (Yes/No), and enterprises using its facilities (number); (vii) agricultural storage facilities rehabilitated/ constructed (number); (viii) rural roads maintained/ rehabilitated (kilometers); (ix) staff trained in Disarmament, Demobilization and Reintegration (DDR) (number); and (x) a study on national development pole strategy completed (Yes/No).

## Components

12. **To achieve the objectives, the project had three components, summarized below.** The total project costs of US\$46 million were to be covered by an IDA grant of SDR 26.5 million (US\$40 million equivalent), supplemented by GoS' and beneficiaries' contributions of US\$2 million and US\$4 million, respectively. A central feature of the project intervention strategy was to entrust responsibility for project execution to specialized agencies under contracts of Delegation of Authority (*Maîtrise d'Ouvrage Déléguée* -MDOD) with compensation based on performance. The Office of the President oversaw overall performance of the project. Three main cabinet departments managed the technical aspects: the Ministry of Agriculture and Rural Equipment (MAER) for Component 1, the Ministry of Transports (MITTD) for Component 2, and the Ministry of Local Development and Communities (MCTDAT) for Component 3.

13. **Component 1: Support to agricultural production, post-harvest, and marketing for selected value-chains (US\$24.0 million, out of which IDA financed US\$22.0 million).** Component 1 sought to provide support to Producer Organizations (POs) to boost rice, horticulture and oyster production with a holistic value chain perspective. C1's objective was to improve food security and generate cash revenues for smallholders, through four subcomponents focusing on production in key areas, post-harvest and marketing all along the value chain: (i) rehabilitation and development of selected rice valleys and horticulture perimeters, and provision of small scale post-harvest infrastructure (US\$8.0 million); (ii) provision of assets to enhance the productivity and increase the production of rice, horticulture crops and oysters (US\$7.0 million out of which IDA financed US\$5.0 million and beneficiaries US\$2.0 million)<sup>8</sup>; (iii) provision of small-scale post-harvest infrastructure, including collection points for agricultural produce (US\$2.0 million); and (iv) improvement of market access through the development and operation of the Integrated Economic Platform of Bignona (IEPB) to handle about 25,000 tons of horticulture products (US\$7.0 million).

14. **Component 2: Rural Accessibility (US\$15.0 million, out of which IDA financed US\$13.0 million).** Component 2 aimed at improving accessibility of the most isolated rural communities and enhancing said communities' access to roads leading to local markets and agricultural production zones, through: (i) improvement of the poorest rural communities (CRs) road access, through spot improvements of about 350 km of unclassified roads linking rural communities with districts and urban centers (US\$3.5 million); (ii) rehabilitation and maintenance<sup>9</sup> of about 200 km of selected rural roads to increase access to commercial infrastructure and zones with high agricultural potential (US\$10.2 million, out of which IDA financed US\$8.2 million); (iii) implementation of a rural roads maintenance pilot program of about 40 km through labor intensive (HIMO) methods (US\$500,000); and (iv) strengthening of the capacity of the staff and contributors of the Regional Development Agencies (ARDs), and rural communities in the area of general contracting and maintenance of rural roads (US\$800,000).

15. **Component 3: Project implementation and capacity building in Disarmament, Demobilization and**

<sup>8</sup> The low productivity of rice production in Casamance was due in part to the lack of improved inputs and implements and weakness of advisory services, but also, and prominently, to the long term phenomena of salinization and siltation of valleys bottoms compounded by a lack of management of rain and irrigation water. The project financed the construction of small dykes and drainage infrastructure to control saline water flows and make better use of the fresh water.

<sup>9</sup> 'Traitement des points critiques' as opposed to 'entretien périodique'



**Reintegration (DDR) (US\$7.0 million, out of which IDA financed US\$5.0 million).** Component 3 included four sub-components: (i) strengthening the capacity of key stakeholders, including the *Agence Nationale pour la Relance des Activités Economiques et Sociales en Casamance* (ANRAC) through consolidation of peace building processes and the fundamentals of DDR for ex-combatants (US\$600,000); (ii) carrying-out three strategic studies on: (1) developing a cadastral plan; (2) developing a geo-reference map of interventions in Casamance; and (3) support to the Government in the definition and implementation of a strategy on pole development, which would integrate a fiscal framework; these studies were to involve wide participatory consultations with stakeholders; (iv) support to project management and results Monitoring and Evaluation (M&E) (US\$3.8 million); and (v) construction of office facilities for ARDs and provision of related office equipment (US\$2.0 million, financed by GoS).

#### **B. Significant changes during implementation**

16. **May 2014: Shift of project coordination responsibilities away from the Regional Development Agencies (ARDs) to the creation of a Project Implementation Unit (PIU) and dropping of DDR activities.** In the initial project design, the coordination unit was to be light and composed only of three staff based in Dakar to support the three ARDs in charge of operationalizing project implementation in the regions of Sédhiou, Ziguinchor and Kolda. This arrangement was changed upon Credit effectiveness in May 2014. It coincided with the announcement by the President of a 'development pole' approach to Casamance. In this new institutional scheme, the pole development was entrusted to a Territorial Development Agency (ADT), and the basic local authority for decentralization was vested with the department as opposed to the region. In this context the Project Implementation Unit (PIU) was relocated to Ziguinchor in July 2014 and reinforced by a technical staff of ten people to take charge of the areas of intervention of the project. As to DDR activities, they were dropped from PPDC in the first year of project implementation for a twofold reason: (i) the situation in Casamance had already improved markedly in terms of overt activity of militia groups; and (ii) DDR activities were transferred to a Bank-funded Trust Fund (TF) intervention.

17. **September 2017: Partial restructuring following the Mid-Term Review (MTR).** To reflect the findings and conclusions of (MTR) of September 2016, the project underwent a partial (Level 2) restructuring aimed at changing the Results Framework in view of the lag in project implementation and revising project activities, targets and costs. The following four targets were modified:

- a) The date set for the IEPB to become operational was changed to 2017 as opposed to 2016 initially;
- b) The volume of produce handled by IEPB in 2018 (the initial project closure date) was decreased from 25,000 tons to 13,000 tons given the delays in starting its operations;
- c) The overall area of horticulture perimeters which was decreased from 3,000 ha to 300 ha as the initial target was grossly overestimated in view of the project funding and land availability; and
- d) The total number of km of roads to be maintained or rehabilitated was lowered from 550 km to 480 km also because of insufficient funding.

18. **The restructuring aimed also at modifying Component 3 to establish pilot operations of Citizens' Engagement (CE) for an amount of US\$2.5 million originally earmarked for a study regarding development poles.** The pilots were meant to reinforce communication with and ownership by beneficiaries of the territorial development approach, through (i) developing and/ or updating Communal Development Plans (PDCs) for nine communes; (ii) managing complaints regarding project implementation through a Grievance Redress Mechanism (GRM); and (iii) better transparency and access to information regarding communal affairs including related project activities. Two new indicators were created to monitor (i) the number of pilots established (3 in 2017 and 9 in 2018), and (ii) the number of complaints resolved according to set delays. The restructuring also factored in the formal contribution of the Road Maintenance Fund (*Fonds d'Entretien Routier-FER*) to cover the cost overrun incurred under Component 2 at the time



of the MTR.

19. **May 2019: Extension of one year and corresponding changes to allow for PDO achievement.** Four major changes were made: (i) *Credit closing date*: the restructuring extended the closing by one year from June 30, 2019 to June 30, 2020; this one-year extension was to allow the completion of all outstanding project activities required to achieve the PDO, including increasing the rainfed rice output and the volume of local produce passing through the IEPB; (ii) *reallocation of funds*: the remaining funds (XDR 683,894) regarding “Refund of Preparation Advance” were reallocated from Category 2 to Category 1 “Goods works, non-consulting services Operating Costs, Training, and Consultant’s Services”; this change was to allow the project to cover part of the operating costs of the PIU needed due to the one-year extension of the Credit closing date; (iii) *results framework targets*: these targets were modified to reflect the new project-end targets; (iv) *disbursement estimates and timeline*: these were revised to allow completion of project activities related to changes in the Results Frameworks; and (v) *change in implementing agencies*: the restructuring upgraded the responsibilities of the existing project coordinating unit to full “Project Implementation Unit” – PIU<sup>10</sup> to take over the tasks that ARDs were supposed to have regarding provision of technical services; associated conventions were signed by the PIU with six executing agencies to ensure the provision of the technical services initially envisaged through the ARDs.<sup>11</sup>

20. **June 2019: Extension of the closing date owing to restrictions imposed under Covid-19:** The onset of the Covid-19 pandemic at the beginning of CY2020 and the subsequent measures taken by the Senegalese authorities—particularly, restrictions on the movement of people and goods—had significant impacts on the ability of the project to achieve a timely closure despite being on track to complete project activities before the pandemic. The restructuring provided an extension of the closing date of three months to (i) allow a number of contracts at risk of not being executed by June 30, 2020 to be adequately completed over the additional period of implementation; (ii) to create the conditions for transfer of operational responsibilities to permanent agencies; and (iii) to engage a strategic reflection on a possible follow-on engagement of the World Bank in Casamance. A detailed work plan and timeline for the above was established and closely monitored until the new closing date.

### Revised PDO and Outcome Targets

21. **The PDO remained unchanged during the entire project implementation period.** The PDO outcome targets were revised as follows (i) the targeted revenue per ha of horticulture was increased from CFAF 675,000 to CFAF 1.35 million; and (ii) the targeted volume handled by the Bignona platform was reduced from 25,000 tons to 13,000 tons at Mid-Term and then reinstated to 25,000 tons in May 2019.

### Revised PDO Indicators

22. **One PDO indicator was added following MTR regarding the number of Citizen Engagement pilots.**

### Revised Components

23. **Component 3 was revised as part of the September 2017 restructuring to accommodate the Citizen**

<sup>10</sup> This measure gave formal status as PIU to the Coordination Unit and its relationships with implementing agencies. The Coordination Unit had operated de facto as a full-fledged PIU with attendant technical capacity since its relocation to Ziguinchor in 2014 and following its take-over of ARDs’ implementation responsibilities.

<sup>11</sup> These agencies were: Agence de Gestion des Routes (AGEROUTE); Agence d'Exécution Travaux d'Intérêt Public (AGETIP); Fonds National de Développement Agro-Sylvo Pastoral (FNDASP); Société de Développement Agricole et Industriel du Sénégal (SODAGRI); Agence Nationale d'Insertion et de Développement Agricole (ANIDA); Institut Sénégalais de Recherche Agricole (ISRA); and Direction de l'Analyse, de la Prévision et des Statistiques Agricoles (DAPSA). The fiduciary capacity of each of these agencies was assessed by the Bank and conventions were signed for specific services.



**Engagement pilots.** Other activities were scaled down and/ or cancelled to release the required funding for the pilots: the construction and equipment of three Regional Development Agencies (ARDs) was cancelled, the study on development poles was reduced in scope, and the number of ARD staff to be trained was limited to essential core staff.

#### Other Changes

24. There were no changes other than the changes mentioned in paras 16 to 19 above.

#### Rationale for Changes and their Implication on the Original Theory of Change

25. **The rationale for the foregoing changes was as follows:** (i) September 2017: reduced scope and modified timetable of certain activities to compensate for the delays incurred at MTR stage, notably regarding the IEPB platform; (ii) May 2019: a one-year extension of the project closing date granted at that time permitted the project to achieve more ambitious results; and (iii) June 2019: the three-month extension of the closing date was meant to allow more time to achieve the set targets in view of the increased difficulties faced by the project on account of the Covid 19 pandemic. These changes had no implications on the Theory of Change which remained valid for the entire project duration.

## II. OUTCOME

### A. RELEVANCE OF PDO

26. **The PDO remained relevant throughout project implementation to the strategy of the World Bank Group Bank in Senegal.** At project design, the PDO was aligned with the Country Partnership Framework (CPF FY13-17) (see para 7). At project closing, the PDO remains highly relevant to the new Country Partnership Framework (CPF FY20-24) regarding its three focus areas<sup>12</sup>. Similarly, throughout implementation, the PDO remained consistent with GoS' Plan Senegal Emergent, the major blueprint for economic development planning, particularly through PSE's objectives to support (i) a structural transformation of the economy through a more balanced approach to development, with the promotion of regions and economic poles in order to stimulate the potential for development across the entire territory; (ii) a significant improvement in the well-being of the population through a more sustained struggle against social inequality, while preserving the resource base and supporting the emergence of viable regions; and (iii) the reinforcement of security, stability, governance, the protection of rights and liberties, and the consolidation of the rule of law in order to create better conditions for social peace and the fulfilment of potential in the isolated region of Casamance.

27. **PPDC was also well framed within the context of the country's decentralization process and pole development strategy.** Act III of decentralization setting out the latest decentralization policy was launched in December 2013 with the passage of the General Code for Local Governments (*Loi portant Code Général des Collectivités Locales*) to reinforce the capacity of local governments. Act III extensively redefined local governance institutions across the national territory, increasing municipalities from 172 to 557 and transferring significant administrative responsibilities and financing to local government administrations. Act III also specifically highlighted the unique challenges of decentralized financing and local planning in Casamance, with dedicated support to the "project of territorial development of the State in Casamance as a pilot pole which will promote a new modality of intervention in this territory." While PPDC did not finance local government directly (supply side), it strengthened the demand side of

<sup>12</sup> World Bank Group Country Partnership Framework (CPF) for the Republic of Senegal for the period FY20-FY24. The CPF three focus areas are: (i) build human capital and enhanced productivity, including with a gender focus; (ii) boost competitiveness and job creation through private sector-led growth; and (iii) increase resilience and sustainability in the context of growing risks.



local government by improving the ability of citizens and producer groups to engage with local government. In that sense, PPDC was very relevant to the situation identified under Act III. Additionally, the project concept provided for a holistic approach that was well suited to the challenges of the post-conflict status, as its combined operational activities (agricultural development, rural infrastructure and accessibility) with a focus on vulnerable groups (women and youth), and institutional strengthening and demobilization, in a synergistic manner. A beneficiary survey by GoS for the project completion report (July 2020), covering partners (regional monitoring committees, public agencies, farmers' organizations, etc.) and beneficiaries (communities, groups of women and young people), illustrates the high degree of satisfaction of targeted actors regarding the quality of implementation activities and confirms the relevance of the project concept.

28. Given the above, the PDO both at project approval and project closing are rated as **highly relevant**.

**B. ACHIEVEMENT OF PDO (EFFICACY)**

29. The achievements under PDO indicators (IOs) are summarized in Table 1 below (see Annex 1 B for details regarding Intermediate Results Indicators - IRs and Key Outputs - KOs). It is the view of this report that the three relevant outcomes to consider are both the two formal outcomes which integral part of the formulation of the PDO (enhanced agricultural productivity and improved rural connectivity) and the third one that should have been included in the PDO, i.e., strengthened rural participatory development (see para 9 above).

**Table 1: Achievements under PDO Indicators**

PDO Indicator	Baseline (2013)	Target		Achievement (2020)	Rate
		Original (2013)	Revised (2017 and 2019)		
<b>Outcome 1: Enhanced agricultural productivity with a focus on youth and women farmers</b>					
• OI 1.1 - Average increase in rainfed rice yield (tons of paddy/ha)	0	1.6	No change	1.34 <sup>1/</sup>	84%
• OI 1.2 - Average revenue of horticulture (US\$ per hectare)	250	675	1,350 (2019)	1,650	122%
• OI 1.3 - Tons/year of local produce passing through the Bignona platform	0	25,000	13,000 (2017) 25,000 (2019)	339	2.6%
<b>Outcome 2: Improved rural transport connectivity</b>					
• OI 2.1 - Share of the rural population with access to an all-season road (number of rural people)	52% (614,000)	60% (705,000)	No change	71% (809,080)	118% (115%)
<b>Outcome 3: Strengthened rural participatory development</b>					
• OI 3.1 - Number of direct project beneficiaries	0	50,000	No change	120,840	240%
○ % female	0	40%		56.1%	140%
○ % youth	0	50%		30.6%	61%

<sup>1</sup> Weighted average over the project implementation period.

**Assessment of Achievement of Each Objective/Outcome**

**Outcome 1: Enhanced agricultural productivity with a focus on youth and female producers**

30. Project progress toward Outcome 1 was to be monitored along the project-targeted commodities at both production and marketing level: (i) *at production level*, i.e., producers benefitting from project supported agricultural



infrastructure (e.g., water control) and extension work at field level; Outcome 1 was to be measured by the increase in rice yield as well the area provided with irrigation and drainage; and (ii) *at marketing and processing level*, i.e., producers, off-takers and transporters benefitting from the Bignona facility and the smaller project-sponsored marketing platforms upstream for primary assembling of the production. Although women and youth were the primary target, as stated in the PDO, most project activities benefitted the farmer population at large given the traditional distribution of labor prevailing in Casamance where both men and women (and adults and youth) combine effort along the production cycle to produce such crops as rice, the main staple crop in Casamance. Women and youth were specifically targeted through financial and technical support to producer groups that were women and youth-led, both for rice horticulture and oyster production. For the latter, the project was able to more specifically target women since women tend traditionally to predominate in these sectors.

31. **Average increase in rainfed rice yield (OI 1.1).** PPDC financed small water retention and drainage infrastructure for rainfed rice cultivation covering a cumulated area provided with irrigation and drainage services of about 126,620 ha (IR1.1), or more than fourfold the target of 30,000 ha. It also provided subsidized inputs (fertilizer and pesticides)<sup>13</sup>, as well as technical and management advisory support to Producer Organizations (POs) to improve their cropping practices with a 98.7 % client satisfaction (KO 1.4). 509 groups of women and youth rice producers were provided with equipment and input packages (KO 1.3). The resulting rice yield increment achieved under OI 1.1 (weighed by the project-covered area annually) was somewhat below the expected target (1.34 tons of paddy/ha vs. 1.6 tons). It is to be noted, however, that the target was ambitious: the reference yield of rice at project inception was 1.6 tons; hence, the target represented a doubling of the average yield over a period of five years. Also, the result achieved does not reflect entirely the project performance, as yields in Casamance are highly dependent on a range of exogenous variables (particularly meteorological conditions). During the project implementation period, for instance, prevailing growing conditions were excellent during the 2015 cropping season (high rainfall overall well spread over the growing season) with an attendant increase in yield of 1.84 tons of paddy/ha, above the project target. In contrast, conditions were mediocre during 2017 (rainfall below average with dry spells over the growing season) resulting an incremental yield of only 1.18 tons/ha.

32. **Average revenue from horticulture (OI 1.2).** PPDC supported horticulture over community-managed tracts of land of about 10 ha each on a total area of about 197 ha (IR 1.2) or 2/3 of the revised target of 300 ha. Project operations regarding horticulture started with a delay in Year 3 of project implementation due to a lag in procuring equipment and difficulty in securing the tracks of land. The overall target was greatly reduced from 3,000 ha at design stage to 300 ha at Mid-Term owing to a lack of funds due to an underestimation of costs. In terms of producer revenue, over the reduced area of 197 ha covered, the expected target was substantially exceeded, attesting to PPDC's solid performance, with a revenue per ha of CFAF 1,650,000 (OI 1.2) vs. the target of CFAF 1,350,000 (this target had been revised upward in 2019 from a lower level of CFAF 675,000 initially). This confirms the potential for expansion of horticulture in Casamance as a commercial crop with a focus on women, given the improvement in road connectivity and the existence of a market for horticulture both locally and nationally, as well as for export in the sub-region (Gambia and Guinea-Bissau). The increase in average revenue for horticulture crops was spearheaded by chili peppers and okra which fared well, as also did eggplants, onions and tomatoes.

33. **Volume of local produce handled by the Bignona platform (IEPB) (OI 1.3).** IEPB is a regional multi-purpose wholesale market for the storage, conditioning, and packaging of agricultural products, located in the provincial city of Bignona, a traditional commercial hub at the crossroads of transportation and marketing in Casamance. Together with the construction of 15 mini-platforms/ storage units (IR 1.4), the IEPB supported the marketing of agricultural products. It aimed to facilitate connection between producers, transporters, and traders, and to increase producers' negotiation

<sup>13</sup> PPDC subsidized inputs (fertilizer and pesticides) to the tune of 80 percent for target POs, as opposed to the regular 50 percent provided under regular MAER programs.



capacity and bargaining power. IEPB construction started before the advent of PPDC but needed to be completed; there were strong requests from local authorities to have it completed. PPDC took over the site of IEPB that had been already agreed and the few structures that had been erected. IEPB's main building had already been constructed but needed to be equipped to become operational.

34. **The implementation of IEPB suffered from delays related to the resolution of the safeguards and operational arrangements, as well as, subsequently, procurement and installation of the equipment.** The land allocated to the project had not been fully developed and additional facilities were needed to provide all the required services. Also, importantly, PPDC inherited adverse safeguards-related issues regarding the relocation of people previously occupying the IEPB site, discussed in Section IV. Overcoming these issues, including providing compensation for the individuals affected by the IEPB infrastructure, took about three years to complete. Moreover, near the end of the project, the impacts of the Covid 19 pandemic also negatively affected the supply chains which caused additional delays. Combined, these delays—largely outside the control of the project—account for why PPDC did not reach its target under OI 1.3 (338 tons achieved vs. target of 25,000 tons). Despite these delays, at project closure, all required investments had been completed. By project closing the IEPB platform was fully operational, after operating for two years on a smaller pilot basis with limited quantities of produce handled (mainly mangoes); thus meeting IR 1.3 ('IEPB completed and operational'). This progress had enabled to test the full range of equipment and facilities installed and get the platform fully operational for the subsequent commercial season (2020-21). The transfer of responsibilities to the Chamber of Commerce of Ziguinchor was effective and a competent management team had been recruited and trained with project support at the time of closure. The initial target of 25,000 tons had been first reduced to 13,000 tons at MTR in September 2016, owing to a perceived overestimate at project design, and then reinstated to 25,000 tons as part of the second project restructuring of 2019 on account of the additional time of one year allotted for project completion.

#### **Outcome 2: Improved Rural Transport Connectivity**

35. **Progress toward Outcome 2 was to be monitored by the share of the rural population with access to an all-season road (OI 2.1),** based on the number of rural people served by an all-weather road (IR 2.1) on account of project intervention.

36. **Share of the rural population with access to an all-season road (OI 2.1).** PPDC improved the accessibility of production areas to markets and basic social services, through the maintenance and rehabilitation of rural roads. This has supported the economic integration and reduced poverty of the surrounding populations being served. Two types of road works were undertaken by the project with differing selection criteria: (i) spot or light maintenance for roads for social purposes for the most remote and poor communes, linking them with a road passable year round; and (ii) heavy maintenance or rehabilitation works for economic purpose to facilitate access to producing areas based on their production potential. Nearly all road infrastructure works were completed on time (460 km vs. revised target of 480 km IR 2.2<sup>14</sup>) The project exceeded its target in terms of connectivity of the rural population (IO 2.1: 71 percent vs. target of 60 percent) and number of rural people with access to an all-season road (IR 2.1: 809,079 vs target of 705,000). Out of the total of 460 km of roads, about 222 km were for mechanized spot maintenance and were executed using small and medium size enterprises (SMEs), at lower cost and creating more jobs than larger enterprises. Additionally, a pilot of about 38 km roads were maintained using High Labor Intensity Methods (HIMO) instead of mechanized methods, generating additional employment for the surrounding population. The findings of the GoS Implementation Completion Study (July 2020) showed that the project's road maintenance and rehabilitation reduced the costs and shortened transport time to markets. A survey of 193 randomly selected project beneficiaries by AGEROUTE<sup>15</sup> found that the average product transportation time decreased after the PPDC, though the average level of reduction varies by region.

<sup>14</sup> The initial target was 550 km. It was revised to 480 km at the MTR.

<sup>15</sup> Source: AGEROUTE Final Report 2019



The largest decrease in transportation time was reported in Kolda, where it was estimated at 117 minutes (from 204 to 87 minutes), a reduction of 57 percent. In Ziguinchor, it is 87 minutes (from 160 to 73 minutes), a reduction of 54 percent, while in Sédhiou, it is 38 minutes (from 85 to 47 minutes), a reduction of 44 percent. However, in spite of these variations, the reduction in transport time has had an overall positive impact on agricultural production and marketing activities, according to the respondents. In fact, almost all (98.7%) of the respondents said that they had noticed positive effects of the reduction in transport time for their business. In their opinion, the road rehabilitation made it possible to facilitate access to areas that were almost impassable, reduce down time and increase the number of potential customers.

### **Outcome 3: Strengthened Rural Participatory Development Process**

37. **Progress toward Outcome 3 was to be gauged by the number of direct project beneficiaries (OI 3.1)**, as a proxy for the progress in rural participatory development in Casamance. The citizen engagement pilots (IR 3.1) established as of the MTR were instrumental in achieving this outcome.

38. **Number of direct beneficiaries (OI 3.1)**. Project beneficiaries were the producers benefitting from support under Component 1 (e.g., water control infrastructure, improved agricultural inputs and advisory services), the population in the areas served by the rehabilitated road network under Component 2, and the staff of the entities received training and operating means under Component 3. PPDC reached more than double its overall target in terms of number of beneficiaries (about 121,000 vs. a target of 50,000). Beneficiaries were targeted through groups of varying size (producer groups, cooperatives, community associations, professional networks, etc.), and not individually. The beneficiary selection criteria were predicated on a process of ‘affirmative action’ whereby women and youth were given priority, with male targeted by default. Women were the major beneficiaries with 56 percent of the total beneficiaries against a target of 40 percent. This excellent result was achieved due partly to the fact that certain project activities were targeted purposely on traditional women’s activities (e.g., horticulture and oyster production). Youth comprised only 30 percent of the beneficiaries—rather than the target of 50 percent. As was the case for women, youth were targeted through specific activities, such as the maintenance of roads under the high labor intensity (HIMO) method. Although youth participation only recorded 61 percent of target, their number in absolute value was higher than the target given the increase in the total number of beneficiaries served (about 37,000 youth vs. a target of 25,000 or 148 percent of target).

39. **Citizen Engagement Pilots (IR 3.1)**. PPDC laid the basis for the rural participatory modality involving a plurality of stakeholders and mechanisms for dialogue and monitoring as part of the Casamance pole development and peace building objective. Following the MTR, pilot Citizen Engagement mechanisms were incorporated under Component 3. These consisted of Citizen Engagement Committees (CECs) (target of 9 under IR 3.1) and a Grievances and Redress Mechanism (GRM) (KO 3.1). The CECs were meant as mechanisms for social mobilization and were a major thrust to promote participatory development under PPDC as part of the pole development process. At project closure, three of the CEC pilots were fully operational with the six remaining ones about to be launched. This was a major achievement in view of their impact in sustaining the momentum of participation at the grassroots. The lessons gleaned from the first 9 CECs can inform the expansion of the process to cover all eligible communes. The CECs were accompanied by the establishment of a full-fledged GRM that enabled real communication and exchange with citizens by dealing systematically with their grievances. This exchange platform registered and processed in real time almost all of the 200 formal complaints from targeted Casamance populations. Complaints focused mostly on project implementation delays and lack of resources to meet local needs. The project responded within the required timeframe for 94.5 percent of complaints (close to KO 3.2’s target of 100 percent). The response and solutions brought about through the CECs and the GRM have greatly enhanced the collaboration between project staff and beneficiaries and resulted in increased ownership by targeted populations and greater impact of project interventions. At project closure 98.3 percent of people in the project area were aware of the project beneficiary targeting criteria (KO 3.2 with target of 50 percent.)



### Justification of Overall Efficacy Rating

40. **The main outcomes considered above demonstrate that the project almost fully achieved its objectives or is likely to do so, thus warranting a Substantial rating.** The two-fold PDO objectives were improved agricultural productivity and transport linkages. On the most directly relevant indicators to these outcomes—increased household revenues, particularly for women and youth, improved yield, and share of the rural population with access to an all-season road—the project achieved its targets and in some cases surpassed them, attesting to the full achievement of these objectives. The shortcomings regarding the Bignona platform, explained above, were significant in terms of the gap between its objectives and its achievements; however, the failure to meet the target did not detract from the achievement of the central measures of productivity (yield and revenue). Moreover, at project closure, the platform was fully operational and staffed with competent people, the transfer of responsibilities had been fully achieved, and, based on the piloting of the past two harvesting seasons, the rate of payment of services for the operation of the platform has been set. Based on these achievements it is therefore expected that the objective will be achieved.

### C. EFFICIENCY

41. **Assumptions for the economic and financial analysis.** An ex-post cost-benefit analysis was conducted to assess the project net incremental returns, in the situation with vs. without project, at both farmer level, project-supported entities and the national community. This analysis computed the Internal Rate of Return (IRR) and Net Present Value (NPV) individually for key project activities in both financial and economic terms and in aggregate for the project overall in economic terms. PPDC's financial profitability was assessed for all its Income Generating (IG) activities. These activities are production activities for each targeted crop (rice and horticulture crops) and market-support investments (Integrated Economic Platform of Bignona - IEPB). The NPV is computed using an annual discount rate of 12 percent which is the commercial bank lending rate prevailing for agriculture-related activities in Senegal. Regarding PPDC's economic returns for IG activities and road accessibility investments, as well as for the entire project, the analysis considered costs and prices in social terms for the national community by using a conversion factor of 0.85 and excluding subsidies and taxes. The annual discount rate applied was 6 percent which is the time value of money (i.e., opportunity cost of capital) for the Senegalese society. Both the financial and economic analysis were completed over a 20-year activity horizon (details of the methodology are in Annex 4).

42. **Economic and Financial Analysis of Income Generating (IG) crop activities** (rice and horticulture crops). The results of the financial analysis, with and without the subsidy, and of the economic analysis provide evidence of solid net returns of PPDC's IG crop-supported activities. The Net Present Values (NPV) are positive and the internal rates of return are in excess of the annual discount rate. This positive result indicates that rainfed rice and horticulture crops: (i) in financial terms are profitable enterprises at producer level, in the sense that they both contribute to food self-sufficiency and generate cash from the surplus production marketed, and, hence, can be relied upon to boost smallholders' revenues and welfare. Under PPDC small producers had an incentive to cultivate these crops, as testified by the magnitude of the yield and income increase from these crops; and (ii) in economic terms, Casamance has a comparative advantage to producing these crops, including substituting for rice imports. The much higher NPV recorded for the production of horticulture crops (chili pepper and okra) compared to the production of rice is explained by their much higher input-intensive (particularly labor) production process (requiring eight agricultural workers for hectare of land compared to one agricultural worker per hectare of land for the production of rice). The comparison of the results of the financial analysis with and without the subsidy also reveals that subsidizing inputs to produce rice and horticulture crops significantly enhances the NPV and the IRR. In addition to improving the profitability and the welfare of smallholders, the subsidy is justified by the fact that smallholders would have found it difficult to cover the negative cash-flow arising from the needs to pay for the improved production package during the first year. Indeed, improved



production requires higher upfront out-of-pocket costs which the farmer would not be able to afford in the absence of a seasonal credit from lending institutions.

**Table 2: Economic and Financial Analysis of Rice and Horticulture Production Per Hectare of Land**

	Rainfed rice	Horticulture	
		Chili pepper	Okra
<b>Financial Analysis</b>			
- NPV (CFAF '000 /ha)			
• With subsidy	236	25,673	18,124
• Without subsidy	80	25,135	17,586
- IRR (%)			
• With subsidy	37.8%	29.5%	29.3%
• Without subsidy	17.5%	28.9%	28.4%
<b>Economic Analysis</b>			
- NPV (CFAF '000/ha)	201	41,940	29,560
- IRR (%)	17.5%	28.9%	28.4%

43. **Return on Investments of the Integrated Economic Platform of Bignona (IEPB).** The Internal Rate of Return for IEPB is 27.2 percent in financial terms and 44.6 percent in economic terms with largely positive NPV way above the out-of-pocket costs. The financial return is predicated on the prevailing tariffs established for the services being provided by the platform<sup>16</sup>. These tariffs are also relatively low currently as they purposely avoid taking full account of the initial investment costs which are covered by PPDC. IEPB financial return clearly would be higher if the users were to pay the full cost of the services, reflecting not only to operating costs, but also the investment costs as appropriately apportioned to the tariffs for these services. Also, the return both in financial and economic terms is conservative as computations were based on IEPB reaching 25,000 tons at full capacity when the platform is designed potentially to handle up to 54,000 tons<sup>17</sup>. Increasing the volume of products handled by IEPB and having the facility work continuously year-round would increase the return on investments.

44. **Cost effectiveness and net benefits of the rural roads.** These benefits have been estimated in two ways: (i) by conducting a Cost-Effectiveness Analysis (CEA) of spot improvement and periodic rehabilitation of rural roads; and (ii) by performing an economic analysis of the impact of periodic rehabilitation. In the analysis, it has been assumed that the periodic rehabilitation of roads is required every five years, and their spot maintenance is required annually. The CEA is testimony that PPDC has been effective in terms of costs of road works (see Table 3 below). For spot improvement, both the motorized maintenance methods compare favorably with other projects. It is interesting to note that the high intensity of labor (HIMO) methods, employed on a pilot basis under PPDC, cost a fraction of the cost of the motorized maintenance; they also provide a greater amount of employment for the local communities. The economic impact of the rehabilitation of roads takes into account the benefits of enhanced market access for producers (through increase in market prices), reduced vehicle operating costs and decrease of periodic maintenance costs (undertaken every five years)<sup>18</sup>. The attendant results of the economic analysis point to strong outcomes in terms of the NPV (US\$ 41.4 million vs. US\$10.74 million initial cost) and IRR (53 percent). The roads clearly have had a major impact not only on the economic integration of the populations being served, including facilitating the supply of productive inputs and the

<sup>16</sup> The current tariffs are based on the tariff schedule as reported by the IEPB Annual Report for the campaign 2019, corresponding to about 30 percent of the value added to products being handled.

<sup>17</sup> See PPDC PAD, 2013

<sup>18</sup> Source: AGEROUTE Final Report 2019

evacuation of agriculture production, but also regarding greatly improved access to social services through increased mobility.

**Table 3: Cost-Effectiveness Analysis (CEA) of Spot Improvement and Periodic Rehabilitation of roads**

	PPDC	Other projects
	US\$ / km	
<b>Spot improvement (260 km)</b>		
Motorized Maintenance <sup>1</sup>	15,900	23,000
Maintenance with High Intensity Labor (HIMO) <sup>2</sup>	3,500	-
<b>Periodic Maintenance (200 km)</b>		
Road Rehabilitation <sup>3</sup>	67,500 <sup>3/4</sup>	78,000

<sup>1</sup>222 km <sup>2</sup>38 km <sup>3</sup>Weighted average of cost of roads rehabilitation under PPDC

45. **Project overall economic and sensitivity analysis.** The ex-post project economic analysis is predicated on the evaluation of the PPDC's net benefits in economic terms, i.e., revenues generated through activities attributable to the project net of the costs of goods and services used in project implementation. On the cost side, the analysis is performed considering all cost items, including the costs of the non-directly operational activities under Component 3. On the revenue side it is partial for lack of availability of data. It considers only the benefits from income-generating and cost saving activities supported under Components 1 and 2. These benefits were the only ones that could be reasonably quantified with the data available. Indeed, indirect benefits from spillover effects or capacity building activities were not readily amenable to be measured, particularly as they often have accrued with a time lag. The sensitivity analysis is done on the basis of decrease in revenues of the price of project-supported crop commodities, diminished magnitude of crop production volumes produced and marketed, and reduced cost-savings generated by project activities.

46. **The results of the economic analysis of the overall project are strongly positive with an NPV of over US\$ 67 million (vs. an out-of-pocket cost tag for the project of US\$46 million) and an IRR above 30 percent.** These results are remarkable since the assumptions made on the benefit side are conservative, notably in terms of the economic impact of roads. The sensitivity analysis on these results factors in the possibility for three downside scenarios (i.e., decrease in benefits of 10 percent, increase in costs by 10 percent and reduced benefits of the road rehabilitation and maintenance project by 20 percent). This analysis also yielded positive results suggesting that the project would therefore be able to sustain potential downside scenarios within a reasonable margin.

**Table 4: Project Economic and Sensitivity Analysis**

	NPV (US\$ M)	ERR (%)
<b>Base scenario<sup>1</sup></b>	67,217,268	30.8
<b>Sensitivity analysis</b>		
• Decrease in overall benefits of 10%	16,619,846	13.6
• Increase in overall costs by 10%	22,633,757	15.2
• Reduced road benefits by 20%	60,653,406	27.7

Selected project benefits vs. all project costs

### Overall rating of project efficiency

47. Despite the shortcomings due to data limitations, the above analysis points to a **substantial** project efficiency in both financial and economic terms. The efficiency analysis proves that PPDC has been efficient in terms of generating financial benefits for farmers and other actors along the project-supported value chains. The project has also used resources at least cost and generated positive returns for the national community.



#### D. JUSTIFICATION OF OVERALL OUTCOME RATING

48. **Given the ratings of High for relevance, Substantial for efficacy and Substantial for efficiency, the overall outcome is rated Moderately Satisfactory.** This reflects moderate shortcomings in the achievement of its objectives. The objectives under the PDO—enhancing agricultural productivity, especially for women and youth, and enhancing rural connectivity—were relevant for the Casamance region. As discussed in the Efficacy section above, the project fully achieved its intended outcomes under these objectives as measured by the most directly relevant indicators—revenue, yield, and share of the rural population with access to an all-season road—notwithstanding the underperformance of the Bignona platform in relation to its targeted volume of products handled, for reasons explained above. Moreover, at project closure all the investments for the Bignona platform had been completed and the platform is currently fully operational, so it is expected that the target will be achieved.

#### E. OTHER OUTCOMES AND IMPACTS

##### Gender

49. **PPDC's activities have had a substantial positive impact overall on women's living conditions and welfare status. In addition, certain cropping and other activities have specifically targeted women.** Two types of interventions supported by the project have been targeted specifically on women: (i) *support to horticulture*: horticultural farms created under PPDC have constituted a great source of employment and income for women; they have served as an opportunity to introduce new technologies, modern exploitation techniques of fruits and vegetables that have benefited mostly women, being female-dominated crops; and (ii) *oyster production*: this is an activity entirely in the hands of women who assume responsibilities all along the value chain from harvesting oysters to transporting and placing them on the local market in processed form and/ or on niche markets (hotels, tourist restaurants) in fresh; PPDC has worked through and provided capacity building to the *Fédération Régionale des Groupements de Promotion Féminine* (FRGPF) to strengthen women's organizations dedicated to oyster production (both technical and managerial capacity building) and provide inputs and equipment. In addition, the *rehabilitation of roads* has greatly decreased the hardship of work and the time spent by women on domestic activities (e.g., fetching fuelwood, water and food for the household): the time and energy savings thus obtained have been transferred by women to other tasks, such as income-generating activities (e.g., horticulture and home garden production), and care and education of children, among others productive and reproductive tasks. Hence, apart from the impact on the economy of effort, the rural road maintenance and rehabilitation under PPDC also has had a considerable impact on women owing to the improvement of their income and general living conditions; moreover, unlike women in other parts of Senegal, women in the South use as much as men do, Intermediate Means of Transport (MIT) which make it easier to take advantage of roads to access production areas, water, firewood, health services and markets.

##### Climate Change

50. **PPDC has supported several activities designed to facilitate adaptation to climate change, foster energy conservation and protect natural resources.** The development of rice-growing valleys (cumulated total of 126,620 ha) with investments in water control and drainage has made it possible to fight against saline intrusion, recover the rice-cultivable areas and better manage the available freshwater resources. This has been the single most important activity in combating climate change and is proven to be a major means for rice producers to adapt to climate change (reduced rainfall and increase in tide amplitude). Furthermore, the project has worked closely with some rice production cooperatives which have developed local climate-resistant varieties of paddy. These varieties, thereafter, became disseminated through the network of PPDC-supported farmer cooperatives. This helped small farmers to have access to locally grown paddy which was better attuned to the local circumstances of Casamance at a lower cost than varieties coming from outside the region. Also, the provision of mechanized equipment (tractors, tillers and threshers) as part of the package offered to producers has allowed them to better take advantage of the reduced timing of rains and adopt



climate friendly technologies. For oyster production, better adapted methods of reproduction and harvesting have permitted to preserve the natural resource notably the mangrove that serves traditionally as repository for oyster cultivation. Finally, PPDC has helped introduce solar energy to respond to women in charge of irrigated horticulture perimeters. In view of the high cost for gas for the generators, indeed, some women are now considering having recourse to solar panels. Unfortunately, as indicated later in para 67, no GHG accounting was done neither at appraisal, nor at project evaluation, to attempt quantifying the above benefits in terms of reduced green gas emissions.

### **Institutional Strengthening**

51. **A major thrust of PPDC has been to strengthen institutions to promote both economic development (harnessing Casamance’s potential as part of the country’s pole development approach), and social integration within Casamance through enhancing community participation.** The range of institutional support provided in particular to expand the capacities of Producer Organizations (POs), varied from purely technical support predicated on the diffusion of Good Practices (agriculture and others along the value chains), to organizational and managerial support. For predicated on better methods to handling improved inputs and equipment and accessing markets and rural finance. Regarding roads, government structures empowered local communities to participate in the selection of roads to be rehabilitated and in the methods for road works. The HIMO method has selected in that way with close involvement of communities and led to employment generation opportunities. HIMO has been institutionalized as part of maintenance contracts between AGEROUTE and local communities. As for local level management under the rural participatory approach, the project has established the foundation for participatory and decentralized development through the establishment of the Citizen Engagement Committees (CECs), accompanied by a Grievance Redress Mechanism (GRM) that have given a real voice to individual beneficiaries. Finally, PPDC has supported information dissemination through the creation of a digital library serving as regional repository of knowledge for Casamance, and a website and a GIS<sup>19</sup> regarding project activities with the potential of serving the Casamance development pole; these instruments are being transferred to the regional authorities.

### **Mobilizing Private Sector Financing**

52. **The promotion of private sector activities was an integral part of the project as it aimed to support crop income generating activities and road works.** The focus of the project was twofold (i) facilitate access to inputs, markets and rural finance for POs, and promote Small and Medium Enterprises (SMEs) working with producers all along the project-supported value chains from the farm gate to the market, under Component 1; and (ii) support private civil engineering contractors and construction SMEs as part of Component 2. Under C1, the Bignona platform (IEPB) was the project flagship activity in terms of private sector promotion. It aimed at providing multi-functional facilities specifically for private sector users, regarding cold storage, conditioning, processing and packaging of agriculture produce, and, more importantly, to act as a forum through which commercial relationships would be formed between producers and off-takers. The platform also provided data on potential market opportunities (quantities and prices) which further helped commercial negotiations. At project closure only 9 SMEs (out of a target of 15) had taken advantage of the IEPB facilities because of the delays experienced in completing construction. But it is expected that, soon, the target will be exceeded as IEPB reaches its full capacity. In addition to the Bignona platform, to further private sector activities upstream of the platform, the project established 15 ‘mini-platforms’ with storage and handling facilities designed to serve private operators (producers, traders and transporters) in assembling and conditioning production for onward shipment to IEPB.

### **Poverty Reduction and Shared Prosperity**

53. **By promoting food crops, such as rice and horticulture crops, the production of which is destined partly for**

<sup>19</sup> [www.ppdcc.sn](http://www.ppdcc.sn) and [www.sig-ppdc.org](http://www.sig-ppdc.org). The website was created in June 2015. The digital library for Casamance was an initiative undertaken by PPDC with *Ecole de Bibliothécaires, Archivistes et Documentalistes - EBAD*



**home consumption and partly for the market, PPDC has achieved a twin goal** : (i) improving food intake and nutrition by focusing on crops serving the demands of households in terms of food consumption; and (ii) addressing the need to generate cash by facilitating access to market for surplus production. By achieving these two goals, PPDC has positively contributed to reducing poverty under Component 1. The rural roads that were upgraded under Component 2 have also contributed not only to easing access to the means of production and the market outlets, but also to basic social services. It is to be noted that the major selection criterion of candidate roads for spot improvement was the poverty status of rural communities. In that sense, road rehabilitation under Component 2 has further contributed to enhance socio-economic development and poverty reduction. Finally, the promotion of dialogue and participatory development under Component 3 through activities such as the establishment of CECs and the GMS, have permitted to give a voice to populations at the grassroots, promote equity and further enhance community welfare.

### **Other Unintended Outcomes and Impacts**

54. **The advent of the Covid 19 pandemic at the tail end of the project in January 2020 was clearly unpredicted.** PPDC has certainly contributed to the fight against Covid 19, in the sense that Casamance populations as a result of the project have become better equipped to fight adverse events. The participatory methods instituted under the project have permitted to better transmit messages regarding Covid 19 and organize to fight the disease. On a similar note, the rehabilitation of roads has allowed for better access to health services as well as Covid 19 tracing and sensitization campaigns which was a great added benefit from the project.

## **III. KEY FACTORS THAT AFFECTED IMPLEMENTATION AND OUTCOME**

### **A. KEY FACTORS DURING PREPARATION**

55. **Project preparation was completed under excellent auspices, by a very competent team.** Design took place at the time when a new government team had been appointed following national elections. The Government was clearly very receptive and committed to a project that was aligned both with its decentralization and its pole development strategies; it provided strong backing for project preparation at the highest level and demanded that the project be attached directly to the Presidency. Project preparation was conducted by a multi-disciplinary team including agricultural and road specialists, as well as post-conflict and rural community participation experts and core team members for fiduciary and safeguards. Competent national staff were appointed as counterparts to the Bank team.

### **B. KEY FACTORS DURING IMPLEMENTATION**

#### **Factors subjected to the control of the Government and/ or implementing unit**

56. **One overarching positive factor under Government control was the establishment of a strong PIU and delegation of work to specialized agencies.** The PIU was established early 2014 in Dakar and relocated in Ziguinchor in July 2014. It initially had minimal staffing (a Project Coordinator, and three specialists for finance, procurement and M&E) as it was construed purely as a coordination unit. Subsequent to its relocation to Ziguinchor it was reinforced by other specialists in the fields of roads, value chains, civil engineering, environmental and social safeguards, ICTs, and private sector development to serve in its new role as a full-fledged management unit. This followed the decision to limit the role of the Rural Development Agencies (ARDs) in project implementation. The project implementation set-up called for activities to be implemented through a series of agreements between the Steering Committee and executing agencies (ANIDA, AGETIP, SODAGRI, AGEROUTE, FNDASP, ISRA and DAPSA) having experience in the various fields of intervention of the project. These agencies worked directly with local authorities (municipalities) and producer organizations in the field. Despite their *prima facie* strong expertise, the performance of these agencies was mixed owing to the initial delays in putting them on board and lack of appointed counterparts with local authorities.



57. **The initial difficulties in project management are mainly due to a change in the institutional set-up.** The initial operating set-up relied mainly on the ARDs. This was modified during the first year of project implementation to be more autonomous in terms of management and deployment. In July 2016, a formal change further clarified the respective roles of the Steering Committee and the PIU. This instituted Regional Monitoring Committees set up to assist the Steering Committee, which brought together elected officials and the main institutional actors (governors, prefects, mayors, representatives of POs, ARDs, local government agencies, women and youth groups). This allowed better local ownership and coordination of project activities with the perspective of institutionalizing the process. The project was domiciled at the General Secretariat of the Presidency with the Ministry of Local Governance, Development and Territorial Planning (Directorate of Support for Local Development) and the Ministry of Economy and Finance respectively providing technical and financial supervision. The implementation set-up called for activities to be implemented through a series of agreements between the Steering Committee and executing agencies (ANIDA, AGETIP, SODAGRI, AGEROUTE, FNDASP, ISRA and DAPSA) having experience in the various fields of intervention of the project. Owing to agencies worked directly with local authorities (municipalities) and producer organizations in the field. Despite their strong expertise, the performance of these agencies was solid despite the initial delays in putting them on board and for some of them the lack of appointed counterparts with the direct local authorities.

#### **Factors subjected to World Bank control**

58. **The Bank proceeded as planned with its implementation of support missions every semester as required per Bank guidelines, including during the Covid 19 pandemic when the mission was conducted virtually (May 2020).** These missions involved multi-disciplinary teams. They were thorough in their assessment of project progress and candid in their reporting. One issue repeatedly flagged by the missions was the necessity that counterpart funds be timely disbursed. One important reason was that the staff of the PIU was to be paid using these funds and hence were actually paid with some delay. Other issues that were flagged repeatedly had to do with delays in official approvals due to lengthy procedures by the national authorities charged with PPDC (e.g., for Credit effectiveness that took time to be pronounced) or protracted decision-making by the PIU. In-between missions, the Bank team proceeded with a close monitoring of project activities, including during the Covid 19 pandemic period at the tail end of project implementation when work proceeded in virtual fashion. The exchange of correspondence is testimony that the Bank response was proactive and adhered to the lead time prescribed by Bank procedures (e.g., for providing feedback, granting of no-objections and approvals).

#### **Factors subjected to external circumstances**

59. **The single most important adverse external factor to project implementation was the Covid 19 pandemic, which led to significant movement restrictions in the final months of project implementation.** Restrictions imposed in the context of the pandemic included remote work and limitations of movement of staff. This was an important factor in the delays incurred in the last semester of project implementation at the time where deadlines were tight. For this reason project closure was extended by three months to September 30, 2020. However, the extension occurred during the height of the rainy season, which prevented execution of some of the remaining infrastructure works. Other external factors, all along project implementation, were related to the lack of operational expertise and experience of the administration and project partners.

## **IV. BANK PERFORMANCE, COMPLIANCE ISSUES, AND RISK TO DEVELOPMENT OUTCOME**

### **A. QUALITY OF MONITORING AND EVALUATION (M&E)**

#### **M&E Design**

60. **The project's M&E system was well designed to monitor and measure the main outcomes of the project.** The



M&E unit which was established at the start of project implementation as part of the core team set up for the PIU in Dakar and transferred to Ziguinchor. The M&E strategy was a decentralized one in which data was collected by the implementing agencies under their delegation of authority (*Maîtrise d’Ouvrage Délégée*-MDOD) mandate. Specifically, (i) SODAGRI was to be in charge of data collection on rice production as part of the development of valley bottoms and plateau areas, (ii) ANIDA had to provide data on horticulture perimeters, (iii) the Women’s Association was to help with data collection regarding oysters, (iv) the Chamber of Commerce of Ziguinchor was to provide progress reports on the Bignona platform; and (v) AGEROUTE was in charge of all data having to do with the roads; for that task, it established its own coordinating unit. The PIU M&E unit collected the data specifically for Component 3 and aggregated and processed the data for the entire project to prepare the twice-yearly progress reports. It worked in close collaboration with the financial unit in the preparation of the financial reports to compensate for the absence comprehensive MIS system that would have integrated all physical and financial data. The M&E unit also worked in close collaboration with the regional DAPSA (MAER ‘s ‘deconcentrated’ structure at the local level in charge of planning), to provide statistics on the entire project zone as far as major crop production was concerned notably rice production. The methodology enabled the project to effectively track progress on the main outcome measurements—PDO indicators discussed in Table 1 above, like revenue, yield, and road repairs—by leveraging the technical expertise that the partner agencies had in monitoring activities within their domain.

61. **However, the M&E approach could have been strengthened to better monitor longer-term and transversal impacts.** In particular, the design could have placed more emphasis on differentiating the productivity gains that accrued to women and youth vis-à-vis the general farming population. While there were disaggregated output indicators that allowed the project to track youth and women-led producer groups (e.g., KO 1.3) and the related PDO indicator (IO 3.1) disaggregated the total number of beneficiaries—women constituted 56 percent of that number and 30 percent were youth—the design made it difficult to assess the gains of women and youth relative to the overall farming population in Casamance or to the adult male beneficiaries under the project. This could have been supplemented by an independent impact analysis, with a baseline, midpoint, and end point, but the M&E manual required only a beneficiary assessment survey to comply with the requirements of indicators related to beneficiary satisfaction.

### M&E Implementation

62. **The preparation of the M&E Manual was delayed (it was completed in April 2015, or one year after Credit effectiveness); despite this delay, the decentralized data collection system was successful.** AGEROUTE conducted a number of surveys on the road links to be maintained and rehabilitated under the project (in terms of traffic volumes, decrease in cost of vehicle repairs, decrease in transport time and costs, etc.); it compared some these data with other similar interventions. Certain specialized studies were completed through independent consultants as part of the M&E work (e.g., oyster production), including satisfaction surveys with beneficiaries, a ‘capitalization’ study to establish the main project achievements and an ex-post project completion study. Data collection was conducted through a participatory process involving POs, cooperatives/ associations and collaborative NGOs on the ground. At the end of project implementation, the M&E unit had to adapt to the conditions imposed by the Covid 19 pandemic, including the restrictions regarding in-person work on the ground; it relied more on virtual work to complete data collection.

63. **However, some of the shortcomings in the M&E design persisted through implementation.** Without a baseline study, mentioned above, the capitalization and ex-post evaluation studies prepared at project completion were insufficient for a full assessment of some of the project’s longer-term impacts, particularly on questions related to trust in institutions and overall contribution to reduction of conflicts and peace. The above noted design shortcomings also made it impossible to differentiate the productivity gains of women and youth vis-à-vis other beneficiaries—this does not prevent assessment that the project achieved its intended outcomes of improving their productivity, but it would have likely yielded important information on their relative gains that could have informed subsequent interventions.



## M&E Utilization

64. **The M&E unit provided day-to-day data regarding the main project outputs.** Data collection served in particular to inform the Results Framework that served as control board to steer project implementation. It served also to inform the establishment of the project website including geo-referencing of major project interventions, and the preparation of the progress reports. These reports were prepared in a timely manner; they were reviewed regularly during Bank supervision missions and were instrumental for the Bank to monitor progress in project implementation. The collaboration with partner agencies worked well in terms of data collection and analysis as these agencies provided their expertise and experience in handling specialized data. Similarly, the close collaboration with MAER's regional DAPSA was beneficial as it served both to provide statistics on the project zone as far as major crops were concerned notably rice, but also to contribute to general agriculture data collection for the entire Casamance region. PPDC investments were geo-reference and mapped on the PPDC website as part of the digitization efforts of the project's monitoring and evaluation. Finally, the capitalization study and the project completion reports were useful for the preparation of this ICRR in spite of their limited coverage and lack of supporting evidence.

## Justification of Overall Rating of Quality of M&E

65. The M&E data were clearly useful in informing the results framework. However, the foregoing shows that there were shortcomings in designing and deploying the M&E system so that it would have sufficient coverage to fully track project implementation. Hence, the overall M&E quality is rated as Modest.

## B. ENVIRONMENTAL, SOCIAL, AND FIDUCIARY COMPLIANCE

### Environnemental and Social Compliance

66. **PPDC was classified as Category B.** Given PPDC's type and scope of activities, five safeguard policies were triggered under the project: (i) Environmental Assessment (OP 4.01); (ii) Natural Habitat (OP 4.04); (iii) Pest Management (OP 4.09); (iv) Cultural Resources (OP 4.11); and (v) Involuntary Resettlement Policy (OP 4.12). To deal with these policies, an Environmental and Social Management Framework (ESMF), a Resettlement Policy Framework (RPF) and a Pest Management Plan (PMP) were prepared. The ESMF was mandatory given the general nature of PPDC's activities; the RPF was prepared because PPDC could involve the acquisition of limited tracts of land notably for the Bignona platform and the horticulture perimeters; and the PMP because PPDC was to finance income generating activities, notably under partial irrigation infrastructure in flooded plains for rice, which would involve additional use of fertilizers and pesticides. No GHG accounting was done neither at project appraisal, nor at project evaluation stage. Biodiversity conservation (see Data Sheet) was addressed indirectly in a limited way, as the project contributed to the research and preservation of local rice varieties and supported the conservation of mangrove through oyster production (traditionally done on mangrove).

67. **To deal with the environmental and social management, the project recruited a specialist as permanent staff of the PIU.** The required environmental and social clauses were duly incorporated in all contractual documents for the procurement of goods and services from private and para-public contractors under the project. As to the specific income generating activities, the following measures were taken to account for the environmental and social aspects: (i) each activity at design stage was screened to identify what specific environmental and social safeguard measures were needed; (ii) during implementation, the World Bank's environmental and social procedures were generally followed: all the actors directly involved in the use of the environmental and social safeguard documents, were trained in line with the operational policies of the World Bank and the national legislation; liaison was established at the national and deconcentrated levels with MATD for environmental and social oversight and monitoring; and information and sensitization campaigns were conducted with beneficiaries regarding the potential negative environmental and social impact of the project. However, there were problems with regard to land acquisition for the Bignona platform. During



supervision in 2018 the TTL noted that excavation work had already started on the Bignona platform, while the Resettlement Plan had not been finalized and the environmental assessment had not been approved by the Bank. The work was thus not in line with the World Bank's operational policies, including OP 4.12 on involuntary resettlement, and OP 4.01 on environmental assessment, which requires that safeguard documents be prepared, approved by the Bank, published in the country and on the external site of the World Bank and the resettlement plan implemented in an acceptable manner before the work starts. The mission asked that all construction work be stopped immediately and the PIU and contractors complied. Work was resumed in 2019 after the resettlement plan was brought into compliance and the environmental assessment had been approved. Delays were caused in part because land acquisition and compensation for affected persons was under the responsibility of the municipality, rather than the PIU.

68. **Except for land acquisition issues regarding the Bignona platform, the project environmental and social impacts were minimal, site specific, and manageable to an acceptable level.** Overall, project performance regarding environmental and social compliance was Satisfactory with the PIU complying with the necessary coordination and project reporting in that area. In particular, project-supported investments were duly monitored and controlled for their compliance with social and environmental safeguards policies, including investments in irrigation and drainage, road works, and agriculture production and marketing activities and services.

69. **Grievance Redress Mechanism (GRM).** The GRM system was implemented after MTR as part of broader efforts to enhance citizen engagement in the project. The GRM system was highly effective, with virtually all (94%) complaints dealt with and closed to the satisfaction of the complainant. The project implementing unit benefited from training on collecting and addressing complaints, organized by the World Bank Safeguard Team to further increase in-country capacity for handling complaints in future projects.

70. **Gender-Based Violence (GBV).** During the last year of project implementation, the issue of Gender Based Violence became prominent and the project positively engaged to addressing it. Awareness activities among the populations and the contractors including daily workers were carried out using appropriate communication tools for a good understanding of the issue. For example, each employee working on the sites including daily workers received training on the meaning of violence against women and signed a code of conduct holding them responsible for any GBV action. These training sessions available in local languages along with comprehensive posters posted around the sites and codes of conduct highlighted actions considered as GBV and applicable sanctions. Fields visits took place to observe the application of the rules and the supervising mission was empowered to ensure respect of these guidelines by all concerned parties. In addition, the GRM has provided for a specific GBV system upstream, allowing for priority and anonymous treatment of this type of complaint, both for residents and site employees.

### **Fiduciary Compliance**

71. **Financial management.** The overall performance of financial management was satisfactory all along project implementation. Early on, the PIU established a comprehensive financial management system which was made operational and proved to be an adequate instrument to manage funds. A Financial Manager was recruited at project inception to head the PIU's financial section. However, the internal controller was not recruited immediately, and thereafter resigned in October 2019. Despite repeated requests by the Bank, he was not replaced immediately. In the interim, the financial manager had to assume the internal control responsibility. Although this was a sub-optimal arrangement, it proved adequate and financial operations were conducted according the procedures outlined in the Project Operations Manual. One procedure that was not expected, is that, due to the lack of mobilization of the counterpart funds, the project had to pay out of the IDA credit the funds in local currency due to civil works providers. The external audit reports were received on time. They were unqualified overall except for minor ineligible expenditures. In this regard, prior to project closure, expenses in amount of CFAF 36 million related to the payment of compensation of the president of the project steering committee were duly refunded



72. **Procurement.** Project performance in terms of procurement was moderately satisfactory. Procurement operations were handled by a full-fledged Procurement Specialist until January 2016 when he resigned. Thereafter, procurement responsibilities were assumed by an assistant who acted as interim officer. This staff was finally confirmed in the position of Procurement Specialist in July 2019. Despite these staffing shortcomings, procurement operations overall were handled adequately particularly during the COVID 19 period. Annual Procurement Plans (PPMs) were regularly uploaded and approved in STEP. The Procurement Post Review and the Procurement- Risk Assessment Management System (P-RAM) were regularly updated prior to project implementation support missions. The comprehensive update of operations in STEP was made in a timely manner before project closure, with procurement contracts entered in STEP including contracts subject to ex -post review, except for some contracts handled by external Executing Agencies.

73. **Disbursement.** Due essentially to the above shortcomings in procurement, disbursements were slow during the project initial phase. Indeed, at MTR, 81 percent of the IDA Credit had been committed but only 27 percent had been disbursed. As of 2017, disbursements from the IDA credit started to pick up substantially owing to the payment of the first batch of roads rehabilitated. Disbursement finally reached 92.7 percent of the IDA Credit following the four-month grace period after project closure (Sept. 30, 2020).<sup>20</sup> However, one issue had to do with the mobilization and disbursement of counterpart funds. At MTR only 16 percent of these funds had been committed and a mere 6 percent had been disbursed. This created delays, in particular with the payment of PIU staff who were to be compensated with counterpart funding. Project counterpart funding continued to be an issue all along project implementation despite being flagged repeatedly by Bank supervision missions.<sup>21</sup>

### C. BANK PERFORMANCE

#### Quality at Entry

74. **In retrospect, there were several flaws with project design, starting first with the PDO.** As mentioned above, the PDO did not capture the full range of project outcomes. The PDO had limited coverage of outcomes. I.e., it only covered two components (Component 1: agriculture production and marketing, and Component 2: rural roads). There was no reference in the PDO to the project contribution to Casamance as a development pole or to local participatory development when important resources were earmarked for that purpose (Component 3). The shortcomings in capacity building as part of Component 3 were remedied at MTR with the introduction of the pilot CECs and the GRM, and attendant reallocation of funds and replacement of existing indicators with one tracking the number of pilot CECs. But the PDO was not modified to reflect this important change. Similarly, the focus of the PDO (part (i)) on youth and female farmers seemed to have been too restrictive in the sense that the corresponding project activities were bound to benefit as much male and older producers (e.g., support for rice cultivation as well as marketing support as major interventions under Component 1).

75. **Another shortcoming regarding the quality at entry was that the project design envisaged that a primary role in managing the project would be given to the three Casamance ARDs, with the PIU being only a light facilitating and coordinating structure.** The reason is partly that the project had been designed when Act 3 of the Decentralization Strategy had yet to be enacted; since one of the objectives pursued by Act 3 was to ensure clarification and simplification of the scales of governance, it was determined that it was more appropriate to limit the ARD to its role of assisting the PIU and not give it a primary role in the implementation of the project. As such it was decided to strengthen the role of

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<sup>20</sup> The final 'official' tally from the Bank portal for disbursement out of the IDA Credit was 92.7 percent (see Annex 3). However, disbursement may not have been all tallied at the time of the writing of this report. Indeed, based on information from the project PIU, given the payments made during the grace period, disbursements should have been higher.

<sup>21</sup> Evidence points to the systemic nature of challenges like counterpart funding both in Senegal and elsewhere in Africa given the tight fiscal situation experienced by governments.



PIU including staffing with all the necessary expertise to coordinate and oversee project implementation with a wide array of diverse partners. The reliance on a PIU came thus about in large part because of changes to the decentralization policy concurrent with the start of project implementation; however, it limited the ability of the project to strengthen the new institutions of decentralization, like the departments, which should be strongly considered in the event of a future project.

76. **Finally, at project design stage, there was a substantial over estimation of targets and underestimation of budget.** For instance (i) horticulture development was targeted at 3,000 ha; it had to be reduced at 300 ha at MTR due to budget constraints and lack of land availability; (ii) the Bignona platform was slated to handle 25,000 tons of produce (half the production of the Bignona department); this volume was clearly overestimated; it was reduced to 13,000 tons at MTR; and (iii) the rehabilitation of roads originally targeted 550 km; the target was reduced to 480 km at MTR. Some other difficulties were also underestimated, notably Casamance's complex land tenure situation and lack of readily available land; it proved quite hard to secure the 10ha tract of land for each horticulture perimeter.

### Quality of Supervision

77. **The Bank closely monitored project progress and provided regular support for project implementation and training to reinforce the capacity of the PIU; in spite of its efforts.** Supervision missions were organized systematically at six-month intervals as prescribed under Bank guidelines with the support and in close liaison with the project PIU. This included the last supervision of May 2020 which was organized virtually given the restrictions imposed on travel to the field due to the Covid 19 pandemic. In-between supervision missions, the Bank team was responsive and proactive; it systematically responded to the national project team requests (including for non-objections and technical support) in the timely manner as mandated under Bank procedures. Supervision reports testify that the Bank was candid with the national team as to possible project implementation concerns and agreed systematically on remedies to be taken. This applied particularly in specific instances such as the decision, in early project implementation, to relocate the PIU from Dakar to Ziguinchor, and provide for a major strengthening vis-à-vis the changing role of ARDs. It is also the case of the MTR review where major decisions were taken as to project reorientations and attendant use of budget resources. The introduction of the pilot CE Committees at that time proved instrumental in refocusing project activities on eliciting participation from the grassroots and the GRM proved essential to give a voice to the beneficiary population notably the marginalized groups.

78. **However, the Bank recommendations were sometimes not fully heeded.** Several points illustrate the modest response to the recommendations of Bank supervisions: (i) the Bignona platform confronted major delays, in part because of the slow reaction of local authorities regarding the compensation of involuntarily relocated people or procurement of equipment. These delays unfortunately persisted up to project end when finally they were resolved, but certainly impacted the results of the platform; (ii) the availability of counterpart funds was a perennial problem since the compensation of the PIU staff and the advances to be made to contractors (notably for roads) were dependent on these funds; this issue was flagged repeatedly by the Bank but was never completely resolved because of GoG's overarching fiscal constraints; and (iii) the coverage and availability of M&E data; Bank support missions indicated that the data failed to cover certain keys aspects of project implementation such as the project impact and economic integration of the beneficiary population as they benefitted from the implementation of productive agro-climatic investments and the rehabilitation of roads; issues surrounding the impact on beneficiary population clearly needed more systematic documentation; however the Bank's suggestion regarding M&E was only partly heeded by the national party, to the point where the national ex-post evaluation undertaken at project end had flaws in its coverage, as it was unable to provide a proper efficiency analysis due to the lack of data.

### Justification of Overall Rating of Bank Performance

79. Bank performance overall is rated as **Moderately Satisfactory** rather than Satisfactory despite proving solid all



along project implementation, essentially on account of the significant shortcomings in project design and minor shortcomings in steering the supervision process.

#### D. RISK TO DEVELOPMENT OUTCOME

80. **Overall.** The general risk to PPDC's development outcomes, in terms of overall socio-economic development of Casamance, and specific contribution to the Casamance pole development and decentralization process, lies in institution building and governance at the level of the entire Casamance territory. The risk is rated as Moderate. There is first the very practical need that the legacy of PPDC be taken up by permanent institutions within the framework of decentralization through a formal transfer of responsibilities, beyond being piggy-backed for some time on the new CEDP project (P175325) under preparation. Currently the only structures well placed to take over from PPDC are the ARDs. Although it has not provided the entire support envisaged initially, PPDC has contributed to increasing their operational capabilities. Efforts to developing their capabilities should be pursued like for instance in the area of road maintenance to organize works under the HIMO method. Other actions supported by PPDC under Component 3 that aimed at promoting participatory development will also have to be pursued to sustain its legacy. A case in point are the CECs and the GMS that will permit to continue engaging dialogue with citizens and giving them a voice in a transparent and effective manner. Follow-on interventions should clearly pursue PPDC support on that front, as well as attendant support to NGOs that will help to roll out further the process at the grassroots.

81. **IEPB.** The last quarterly progress reports of the platform testify that the facility is managed on a daily basis by a competent team of specialists, and has an adequate governance structure, including a steering committees headed by the Chamber of Commerce of Ziguinchor that has a good representation of stakeholders (users of the platform facilities, i.e., producer groups and cooperatives, as well as traders and transporters associations). Bearing in mind that its investments were entirely covered by PPDC, the risk to IEPB development outcome is that IEPB may not be able to generate sufficient revenues to cover its operating expenditures and renew its investments in a timely manner. IEPB has been able to establish a tariff schedule that will permit to achieve that goal above a minimal capacity of about 13,000 tons of produce being handled. To achieve that level of activity the platform will have to work with a large array of products during the entire year. Currently, it is working essentially with mangoes that are using the platform for some two months yearly. To ensure its viability the platform will need not only to expand the mango season (to say to 3-4 months) but also deal with other fruit production (maad and citrus) and vegetables (onions, tomatoes, okra and peppers, as well as leafy vegetables such as cabbage and lettuce that can be produced throughout the year. Indeed, more than the overall volume of production handled, it is only by working year-round that IEPB will achieve operational viability. Shutting down the facility even part of the year is a source of additional costs and inefficiencies that the platform cannot sustain. Given Casamance's potential for horticulture production it is entirely possible that the facility could operate on a year-round basis. To achieve that goal, IEPB should further promote commercial arrangements based on solid interface between producers and traders/ processors/ transporters, backed by contractual modalities.

82. **Rural roads.** The roads rehabilitated will only continue being useful to the extent they are maintained properly and be passable at all times. Heavy maintenance will have to be done mechanically under the auspices of the decentralized structures of the government, with funding from the Road Maintenance Fund (FER). The actual work will have to outsourced to specialized Small Scale Enterprises (SMEs) with access to mechanized means. Hence the necessity that the rehabilitated roads are first duly transferred from PPDC to AGEROUTE, and then on to collectivités territoriales, which will have to work with the rural engineering services of the deconcentrated administration. Spot maintenance will have to be done with the participation of local communities with the help of local NGOs, preferably under the HIMO methods that serve to create additional employment. This process has started as a result of project implementation through the signing of agreements between AGEROUTE and HIMO groups. Responsibility for the spot maintenance of roads should be entirely vested with the communes. Spot maintenance under manual methods such as HIMO methods



is clearly less costly and requires less expertise than mechanized methods, and, hence, is more amenable to be organized by communes and funded by their own resources. This said, spot maintenance is a short-term measure to keeping roads passable; it should be part of a longer-term strategy aiming at long term sustainability requiring heavy maintenance.

## V. LESSONS AND RECOMMENDATIONS

83. **Addressing the challenges of inclusion, fragility and sustainability characteristic of post-conflict situations requires multi-faceted investments tailored to local circumstances.** The history of Casamance with its unique and context-specific elements, shares similarities with many other conflicts. Throughout West Africa and elsewhere in the world, targeted and differentiated investments in lagging regions have proved to be instrumental in helping prevent the onset and recurrence of conflict and meet goals of inclusive and sustainable development. PPDC's lessons attest that, in such situations, addressing inequalities through increased multi-faceted productive investments, around clusters with a territorial lens, is key, particularly to support agriculture production, improve transport infrastructure, and strengthen connectivity with markets to create more job opportunities. The magnitude of the investments to be implemented under the holistic approach required to address the factors of inclusion, fragility and sustainability points to the necessity of a multi-donor approach combining effort across agencies where they have a comparative advantage. This would help the Bank focus on a few selected areas having to do broadly with economic development while other donors would deal, for instance, with disarmament, demobilization and reintegration where they may have more of an interest and a comparative advantage.

84. **A focus on key value chains with a holistic approach is best suited to support the economic empowerment of marginalized groups like women and youth.** Women's and youth's participation in development processes are constrained by social structures and cultural norms which negatively impact their ability to develop income generating activities and access markets for their products. Future interventions should consider addressing in a holistic way the social, economic, and physical infrastructure needs of women and youth to both facilitate the production of food for their own consumption and generate cash income through the marketing of surplus production. In this respect, PPDC's lessons reveal the large potential that exist for increased pro-poor livelihood opportunities of vulnerable groups such as women and youth by supporting key value activities in which they operate as a priority under local traditional social norms, such as horticulture or specialized niche activities like oyster production. There is a need to adopt a holistic view of these value chains, and shift emphasis from supporting production only to addressing value support downstream to access the market. In that respect, it is important to always incorporate an in-depth gender/ youth sensitive market value chain analysis in development operations. Correspondingly, in order to track these more comprehensive impacts, it is necessary to carefully plan indicators that (a) follow closely from the project's theory of change, encompassing also its social cohesion elements, and (b) are sufficiently disaggregated for all relevant indicators.

85. **Faced with a need to adapt to climate change and increase disaster risk management, a package approach to supporting livelihood activities and infrastructure can potentially deliver resilience.** A community-led approach, like PPDC's approach, has the potential to provide communities with a broad platform for empowerment and poverty reduction. Such a platform would include a range of management mechanisms for risk mitigation, prominently climatic risks, by making use of local knowledge and expertise to operate effectively in insecure environments. Local investments under such initiatives would improve community access to basic services and infrastructure in a manner that support communities' resilience, particularly to drought and other climate shocks. The required investments would be identified through the community prioritization process to allow for greater economic and social empowerment of participants at the grassroots. To the extent possible, implementing these investments would employ local manpower under labor intensive methods (*Haute Intensité de Main d'Oeuvre*-HIMO) during construction and maintenance, with a focus on women and youth, providing them with complementary income resources.

86. **Participatory planning, programming, budgeting and M&E processes can elicit ownership of targeted**



**populations and guide implementation.** PPDC has made strides in developing mechanisms and procedures at community level for planning and budgeting of resources, as well as collecting the required data to monitor and evaluate implementation, in a participatory manner with beneficiaries. This has been achieved in particular through the Citizens Engagement Committees (CECs) that are giving a voice to client populations. Such an approach has elicited ownership and a sense of inclusiveness on the part of these populations at the grassroots as evidenced by the high degree of beneficiary satisfaction. Such modalities were also applied by PPDC to its own Results Framework which was informed and monitored to the extent possible through participatory modalities with producer organizations (POs) and CBOs at the grassroots. Hence, PPDC was able to proceed with cross check and ground truthing of project results with beneficiaries. The lesson from PPDC to be used in upcoming operations, it that it is important to have a results framework that adequately captures the voices of beneficiaries directly and throughout the project cycle so that the understanding of barriers and impacts of PDO is informed by their perspective and that it feeds into project design and implementation.

**87. Territorial and community-based approaches should be combined to both build on comparative advantage at the macro level and promote local development at the grassroots.** PPDC has demonstrated that an integration of these approaches has the potential to deliver development in a region like Casamance, adhering to the twin concepts of pole development and decentralization. In this respect, establishing the overall planning framework, picking winners in terms of comparative advantage (such as the rice, horticulture and oyster value chains), and dealing with the major connection bottlenecks is a necessity to guide development efforts at the macro-level under the pole development approach. This needs to be complemented through working in a participatory way to dealing with key constraints at the micro level under the decentralization approach. These local constraints have to do *inter alia* with connectivity bottlenecks to accessing production areas, obstacles to promoting local production chains (e.g., water control, improved inputs and implements, etc.), and impediments to accessing markets, etc. Both approaches include specific institutions that should interconnect, such as the creation of regional development committees, local participatory mechanisms (e.g., the citizen engagement committees created under PPDC), and grassroots institutions such as POs, cooperatives and women/ youth groups.

**88. Community-led approaches have the potential to strengthen social resilience, and, combined with the use of ICTs, can be powerful ways to deal with emergency preparedness and management, for instance to respond to crises such as Covid 19.** Existing community-based organizations and citizen engagement pilots of the type sponsored under PPDC can clearly be used to support partnerships between communities, healthcare systems, local governments and the private sector, for a medium-term response focused on supporting recovery from the pandemic and building resilience for the future. This could include mitigating the economic impacts of the crisis at local levels, for example by initiating or expanding existing HIMO-type public work programs, skills training or other job opportunities. Through community-based organizations such as those set up under PPDC, a medium-term emergency support program for Covid 19 could also subsidize vocational training and reskilling for those who no longer have employment, as well as provide assistance for farmers who may have depleted their savings due to the crisis. Furthermore, the above approach, if combined with the use of ICTs, under systems such as the Geo-Enabling for Monitoring and Supervision (GEMS) that allows distance monitoring and supervision of project activities would fit well within a fragility context to address emergencies. Over the longer-term, development efforts can build on the network of trusted community leaders and facilitators as developed under PPDC to support community outreach and awareness and strengthen resilience and emergency preparedness. This would include supporting partnerships between facilitators, community volunteers, and community health workers to provide information and promote appropriate behavior. This kind of social infrastructure could play an important part in strengthening social resilience and emergency preparedness.





ANNEX 1. RESULTS FRAMEWORK AND KEY OUTPUTS

A. RESULTS INDICATORS

A.1 PDO Indicators

Objective/Outcome: Enhance the agricultural productivity of youth and female farmers for selected crops

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Direct project beneficiaries	Number	0.00 31-Jul-2013	50,000.00 25-Sep-2013		120,842.00 30-Sep-2020
Female beneficiaries	Percentage	0.00	40.00		56.10
Youth beneficiaries (Percentate, Custom Supplement)	Percentage	0.00	50.00		30.60
Comments (achievements against targets):					

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
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Tons of local products passing through the platform of Bignona per Year	Tones/year	0.00 31-Jul-2013	25,000.00 25-Sep-2013		338.98 30-Sep-2020
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Comments (achievements against targets):

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Average revenue per hectare of horticulture	Amount(USD)	250.00 31-Jul-2013	675.00 25-Sep-2013	1,350.00 19-Sep-2017	1,650.00 30-Sep-2020

Comments (achievements against targets):

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Average increase in rainfed rice output	Tones/year	0.00 31-Jul-2013	1.60 25-Sep-2013		1.35 30-Sep-2020

Comments (achievements against targets):

**Objective/Outcome:** Improve transport linkages in isolated rural communities in targeted areas of the Casamance region



Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Share of rural population with access to an all-season road	Percentage	0.00	60.00		71.00
		31-Jul-2013	25-Sep-2013		30-Sep-2020
Number of rural people with access to an all-season road	Number	614,000.00	705,000.00		809,079.00
<b>Comments (achievements against targets):</b>					

## A.2 Intermediate Results Indicators

### Component: Rural Accessibility

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Rural Roads rehabilitated and/or improved to all weather conditions	Kilometers	0.00	550.00		460.00
		31-Jul-2013	25-Sep-2013		30-Sep-2020
<b>Comments (achievements against targets):</b>					

### Component: Support to agricultural production, Post-harvest, and marketing for selected value-chains



Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
The platform of Bignona is constructed and functional	Yes/No	N 31-Jul-2013	Y 25-Sep-2013		Y 30-Sep-2020
<b>Comments (achievements against targets):</b>					

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Agricultural storage facilities	Number	0.00 31-Jul-2013	15.00 25-Sep-2013		15.00 30-Sep-2020
<b>Comments (achievements against targets):</b>					

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Area provided with irrigation and drainage services (ha)	Hectare(Ha)	0.00 31-Jul-2013	30,000.00 25-Sep-2013		126,620.00 30-Sep-2020
Area provided with irrigation and drainage services - Improved (ha)	Hectare(Ha)	0.00 31-Jul-2013	12,000.00 25-Sep-2013		5,300.00 30-Sep-2020



Area provided with improved irrigation or drainage services	Hectare(Ha)	0.00 31-Jul-2013	18,000.00 25-Sep-2013		23,461.00 30-Sep-2020
<b>Comments (achievements against targets):</b>					

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Women and youth groups provided with equipment and input packages Horticulture	Number	0.00 31-Jul-2013	75.00 25-Sep-2013		94.00 30-Sep-2020
<b>Comments (achievements against targets):</b>					

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Women and youth groups provided with equipment and input packages Oyster farms	Number	0.00 31-Jul-2013	2.00 25-Sep-2013		21.00 30-Sep-2020
<b>Comments (achievements against targets):</b>					



Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Women and youth groups provided with equipment and input packages Rice	Number	0.00 31-Jul-2013	50.00 25-Sep-2013		509.00 30-Sep-2020
<b>Comments (achievements against targets):</b>					

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Rice valleys rehabilitated	Hectare(Ha)	0.00 31-Jul-2013	30,000.00 25-Sep-2013		126,620.00 30-Sep-2020
<b>Comments (achievements against targets):</b>					

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Small enterprises created around the platform of Bignona	Number	0.00 31-Jul-2013	15.00 25-Sep-2013		9.00 30-Sep-2020
<b>Comments (achievements against targets):</b>					



Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Targeted clients satisfied with agricultural services (percentage)	Percentage	0.00 31-Jul-2013	85.00 25-Sep-2013		98.70 30-Sep-2020
<b>Comments (achievements against targets):</b>					

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Horticultural perimeters rehabilitated managed and /or developped (hectares)	Hectare(Ha)	0.00 30-Aug-2017	3,000.00 25-Sep-2013	300.00 19-Sep-2017	197.39 30-Sep-2020
<b>Comments (achievements against targets):</b>					

**Component:** Project implementation and capacity building

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Percentage of grievance responses within the	Percentage	0.00 31-Jul-2013	0.00 25-Sep-2013	100.00 19-Sep-2017	94.30 30-Sep-2020



required timeframe

Comments (achievements against targets):

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Number of citizen engagement pilots implemented	Number	0.00 31-Jul-2013	0.00 25-Sep-2013	9.00 19-Sep-2017	3.00 30-Sep-2020

Comments (achievements against targets):

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
People in the project area aware of the project's beneficiary targeting criteria	Percentage	0.00 31-Jul-2013	50.00 25-Sep-2013		98.30 30-Sep-2020

Comments (achievements against targets):



**B. KEY OUTPUTS BY COMPONENT**

<b>Objective/Outcome 1: Enhanced agricultural productivity of youth and female farmers for selected crops</b>	
Outcome Indicators	<p>OI 1.1 Average increase in rainfed rice output: 1.35 tons/ha</p> <p>OI 1.2 Average revenue of horticulture: 1,650 US\$/ha</p> <p>OI 1.3 Local products passing through the Bignona platform (338.98 tons/year)</p>
Intermediate Results Indicators	<p>IR 1.1 Area provided with irrigation and drainage services: 126,620 ha</p> <p>IR 1.2 Horticulture perimeters rehabilitated, managed and/ or developed: 197.39 ha</p> <p>IR 1.3 Bignona platform constructed and operational (Y/N): Yes</p> <p>IR 1.4 Agricultural storage facilities constructed and operational (number): 15</p>
Key Outputs by Component (linked to the achievement of the Objective/Outcome 1)	<p>KO 1.1. Area provided with improved irrigation and drainage services: 5,300 ha</p> <p>KO 1.2 Area provided with new irrigation and drainage services: 23,461 ha</p> <p>KO 1.3. Women and youth groups provided with equipment and input packages (number of groups): horticulture, 94; oyster production, 21; and rice, 509</p> <p>KO 1.4. Targeted clients satisfied with agriculture services (percentage): 98.7%</p> <p>KO 1.5. Small enterprises created around the Bignona platform (number): 9</p>
<b>Objective/Outcome 2: Improved transport linkages insolated rural communities in targeted areas of the Casamance region</b>	
Outcome Indicators	<p>OI 2.1 Rural population with access to an all-season road: 71%</p>
Intermediate Results Indicators	<p>IR 2.2 Rural people with access to an all-season road: 809,079</p> <p>IR 2.1 Rural Roads rehabilitated and/or improved to all weather conditions: 460 km</p>
Key Outputs by Component (linked to the achievement of the Objective/Outcome 2)	<p>KO 2.1 Rural roads subjected to periodic maintenance (rehabilitation): 200 km</p> <p>KO 2.2 Rural roads subjected to routine maintenance (motorized): 222 km</p> <p>KO 2.3 Rural roads subjected to routine maintenance (HIMO/ Manual): 38 km</p>
<b>Objective/Outcome 3: Strengthened decentralization process</b>	
Outcome Indicator	<p>OI 3.1 Direct project beneficiaries: 120,842 (female 56.10% and youth 30.60%)</p>



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Intermediate Result Indicator	IR 3.1 Citizen Engagement Pilots (number): 3
Key Outputs by Component (linked to the achievement of the Objective/Outcome 3)	KO 3.1 Grievance responses within the required timeframe (percentage): 94.3% KO 3.2 People of the project area aware of the project's beneficiary targeting criteria (percentage): 98.3%

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**ANNEX 2. BANK LENDING AND IMPLEMENTATION SUPPORT/SUPERVISION****A. TASK TEAM MEMBERS**

<b>Name</b>	<b>Role</b>
<b>Preparation</b>	
Demba Balde	Task Team Leader(s)
Cheick Traore	Procurement Specialist(s)
Fatou Fall Samba	Financial Management Specialist
Salamata Bal	Social Specialist
Maman-Sani Issa	Social Specialist
<b>Supervision/ICR</b>	
Nicolas Perrin, Najat Yamouri	Task Team Leader(s)
Mountaga Ndiaye, Mamadou Mansour Mbaye, Mohamed El Hafedh Hendah	Procurement Specialist(s)
Fatou Fall Samba	Financial Management Specialist
Salamata Bal	Social Specialist
Lucienne M. M'Baipor	Team Member
Anta Tall Diallo	Procurement Team
Seynabou Thiaw Seye	Procurement Team
Ndeye Magatte Fatim Seck	Procurement Team
Medou Lo	Environmental Specialist
Tesfahiwot Dillnessa Zewdie	Team Member
Khady Fall Lo	Team Member
Aminata Ndiaye Bob	Procurement Team
Corey Ryan Pattison	Team Member
Fatim Seck Sy	Procurement Team
Mame Safietou Djamil Gueye	Team Member
Marie Thiawa Fall	Team Member



**B. STAFF TIME AND COST**

Stage of Project Cycle	Staff Time and Cost	
	No. of staff weeks	US\$ (including travel and consultant costs)
<b>Preparation</b>		
FY11	0	10,316.70
FY12	24.246	127,848.99
FY13	51.255	210,528.90
FY14	18.327	109,583.20
FY15	4.550	27,064.93
<b>Total</b>	<b>98.38</b>	<b>485,342.72</b>
<b>Supervision/ICR</b>		
FY14	17.750	98,416.65
FY15	8.775	114,785.82
FY16	13.259	136,364.77
FY17	12.325	96,926.07
FY18	17.639	110,808.40
FY19	11.250	119,144.67
FY20	14.550	103,433.99
<b>Total</b>	<b>95.55</b>	<b>779,880.37</b>

**ANNEX 3. PROJECT COST BY COMPONENT**

<b>Components</b>	<b>Amount at Approval (US\$M)</b>	<b>Revised Amount at MTR (US\$) <sup>1/</sup></b>	<b>Actual at Project Closing (US\$M)<sup>2/</sup></b>	<b>Percentage of Revised amount (US\$M)</b>
<b>Component 1: Support to agricultural production, Post-harvest, and marketing for selected value-chains</b>	<b>22.0</b>	<b>20.0</b>	<b>18.3</b>	<b>91.5%</b>
<b>Component 2: Rural Accessibility</b>	<b>15.0</b>	<b>13.0</b>	<b>11.3</b>	<b>86.9%</b>
<b>Component 3: Project implementation and capacity building</b>	<b>9.0</b>	<b>7.0</b>	<b>7.5</b>	<b>107.1%</b>
<b>Total</b>	<b>46.0</b>	<b>40.0</b>	<b>37.1</b>	<b>92.7%</b>

<sup>1/</sup> At MTR it was decided not to count GoS' counterpart financing of US\$6 million as 'official' project financing since there were difficulties in mobilizing these funds. These funds were earmarked for certain project activities such as salaries or contract advances. They were made available partially over project implementation, and were accounted for separately from IDA funding.

<sup>2/</sup> The actual amount disbursed is the amount given by the Bank portal. However, based on information from the project PIU, it seems that the amount disbursed may have been higher than the portal data, given late payments made by the PIU during the 4-month grace period following project closure allowed for settling payments.



## ANNEX 4. EFFICIENCY ANALYSIS

### Methodology for Ex-Post Economic and Financial Analysis

1. **Financial vs. Economic Returns.** This analysis computes the Internal Rate of Return (IRR) and Net Present Value (NPV) (i) individually for key projects activities in both financial and economic terms, and (ii) in aggregate for the project as a whole in economic terms. It is performed over a 20-year activity horizon in as follows, in financial and economic terms:

- a) *PPDC's financial profitability:* it is assessed for all its Income Generating (IG) activities, producing returns directly or indirectly. These activities are crop production activities for each targeted crop (rice and horticulture crops) and other agriculture-related production (oyster production), as well as road accessibility (road maintenance and rehabilitation) and market-support investments (Integrated Economic Platform of Bignona-IEPB). The financial IRR and NPV are computed for each of these activities to the extent the data are available. The NPV is computed using an annual discount rate of 12 percent which is the commercial bank lending rate prevailing for agriculture-related activities in Senegal; and
- b) *PPDC's economic returns:* the analysis considers costs and prices in social terms for the national community by using a conversion factor of 0.85 applied to financial items and excluding subsidies and taxes. The annual discount rate applied is 6 percent which is the time value of money (i.e., opportunity cost of capital) for the Senegalese society.

2. **Tangible vs. intangible benefits.** PPDC has generated positive economic and social benefits, both tangible benefits amenable to be partially quantified, and intangible benefits not readily quantifiable. Components 1 and 2 (agriculture and transport investments) have provided tangible benefits through the incremental crop and other production activities supported by the project and improved accessibility to producing areas. In contrast, Component 3's benefits, have been mostly intangible as they were derived from capacity building that do not translate into immediate productive output. In addition they often accrue with a time lag. Therefore, in quantitative terms, the PPDC's ex-post Economic and Financial Analysis is necessarily partial. It focuses only on the benefits from Component 1 and 2, and, as part of these components, on key crop production, marketing and transport activities that directly or indirectly generate revenues for the project beneficiary population and can be quantified. Being partial on the benefit side, the analysis yields conservative results regarding the project's overall profitability.

3. **Typical budgets for farming crop activities.** For Component 1, the ex-post EFA focuses on project-targeted crops for which data are available from the M&E data set of the PPDC's PIU, i.e., upland rice<sup>22</sup> as a traditional cash and subsistence crop, and horticulture crops (chili peppers and okra<sup>23</sup>) as diversification crops in irrigated perimeters. The financial analysis aims to determine whether or not these crops are profitable for producers under typical farming conditions prevailing as in the with-project situation. Farm budgets representative of the typical situation being encountered for each specific crop are established using farm-gate costs for goods and services

<sup>22</sup> PPDC supported mostly rainfed rice (about 25,000 ha annually) with simple water retaining bunds and drains. It supported also irrigated rice (about 1,060 ha annually in the Anambe perimeter) with improved inputs and management practices (infrastructure was fully developed under other operations). This production of irrigated rice was not taken into account for lack of data.

<sup>23</sup> PPDC supported as well vegetable crops such as water melons and eggplants over the 200 ha of the irrigated perimeters that were entirely developed under the project. The status of the other vegetable crops mentioned in the PAD was as follows: (i) either they did not appear in the farmer production mix (e.g., cassava, sweet potatoes); or (ii) they were supported only at marketing stage (mostly mangoes, also bananas).



utilized and market prices for commodities produced. On the cost side, the tally is done both with the subsidy being granted under PPDS (for fertilizer and pesticides, as well as for payment of fees for provision of irrigation water and drainage services) and without this subsidy assuming the producers pay the full cost of land development and production. These budgets enable to derive, with and without subsidy, the net financial margin and associated IRR and NPV of crop cultivation for a typical farm per hectare. The economic analysis aims to demonstrate the comparative advantage that Casamance has in producing the project-supported crops and other income generating activities. The costs and revenues streams are derived based on the financial budget items, applying the appropriate conversion factors and excluding taxes and transfers. The IRRs and NPVs in economic terms are computed in turn using the net margins from revenues vs. cost items.

4. **Cost-Benefit Analysis of IEPB.** Additionally, for Component 1, the financial analysis is performed for the Integrated Economic Platform of Bignona (IEPB). Considering that the facility is just currently starting operations, the analysis takes into account, on the cost side, the investment costs *actually* incurred over project implementation in constructing the platform, and the future operating costs *expected* to be incurred as it increases its operations to full capacity over a period of twenty years. On the revenue side, it considers (i) in financial terms, the fees paid by users of IEPB facilities for rentals of premises and services rendered, and (ii) in economic terms, the value added expected to be generated through its cleaning, conditioning, packaging and storage activities of the products being handled, as the platform processes a greater volume of products up to full capacity. The analysis is therefore hybrid, based both on *actual* ex-post costs for investments but *expected* ex-ante costs and prices for operating costs and revenues. As done for crop enterprises, the cost and benefit streams are considered in both financial and economic terms to derive IEPB's net financial returns and economic benefits for the national community with the attendant estimate of the IRR and NPV.

5. **Rural accessibility and transport investments.** For investments under Component 2, the EFA is adapted for the two types of interventions regarding rural accessibility and transport:

- a) *Sub-Component 2.1 - Spot improvement of rural roads and tracks:* SC 2.1's objective was to assure year-round access for motorized vehicles through light improvement to arrive at a minimum level of service; an ex-post Cost-Effectiveness Analysis (CEA) is used to derive the cost per km under mechanized and high intensity labor (HIMO) methods which is compared to the cost of similar interventions under other externally-financed development projects or civil engineering programs of the Senegalese administration; and
- b) *Sub-Component 2.2 – Periodic Maintenance/ Rehabilitation:* SC 2.2's objective was to focus on the heavy improvement of key rural links, featuring higher volume of traffic, required to facilitate access to market; for these links the NPV and the IRR were determined on the basis of savings of Vehicle Operating Costs (VOCs); the analysis does not consider the spillover effects and impacts on economic integration of populations served by the roads and is therefore conservative on the benefit side. In addition, as was done for the spot improvement of roads and tracks, a Cost-Effectiveness Analysis is performed.

6. **Methodology for overall economic analysis.** The ex-post project economic analysis is predicated on the evaluation of the PPDC's net benefits in economic terms, i.e., revenues generated through activities attributable to the project net of the costs of goods and services used in project implementation. On the cost side, the analysis is performed considering all cost items, including the costs of the non-directly operational activities under Component 3. On the revenue side it is partial for lack of availability of data. It considers only the benefits from income-generating and cost saving activities supported under Components 1 and 2. These benefits were the only ones that could be reasonably quantified with the data available. Indeed, indirect benefits from spillover effects or capacity



building activities were not readily amenable to be measured, particularly as they often accrue with a time lag. The sensitivity analysis is done on the basis of decrease in revenues of the price of project-supported crop commodities, diminished magnitude of crop production volumes produced and marketed, and reduced cost-savings generated by project activities.

### Assumptions

7. The following assumptions which were made for the EFA of Components 1 and 2:

- a) *Rainfed rice*: The benefits of the project are measured in terms of the additional yield in rice production of 1.34 tons per ha, from which an annual loss of 5 percent of total production is subtracted, multiplied by a price per kg for rice of CFAF 285. The investment cost per hectare of land, which is being applied in the year which precedes the increase in production yields, is estimated at CFAF 224,685. The annual production cost is estimated at CFAF 321,500 excluding subsidies and CFAF 229,300 including subsidies, with subsidies of close to 80 percent being applied to the cost of purchase of grains, nitrogen, phosphorus, and potassium (NPK) fertilizer and urea in the first two years of production. The total land area to have benefitted from increased yields is 20,905 ha in the first year following the investment cost, 52,916 ha in the second year, 88,033 ha in the third year, 111,494 ha in the fourth year and 126,620 ha in the fifth year;
- b) *Chili pepper*: Revenues are estimated based on a yield of 10,000 kg per ha and a price of CFAF 1,000 per kg, with an estimated loss of 5 percent of total production. The investment cost is estimated at CFAF 21,880,820. The annual production is estimated at CFAF 3,117,916 excluding subsidies and CFAF 2,798,916 including subsidies, with subsidies of close to 80 percent being applied to the cost of purchase of grains, nitrogen, NPK fertilizer and urea in the first two years of production. The total land area dedicated to the production of chili pepper under this project is the same as in okra, i.e., 29.1 ha in the first and second year following the investment cost, 39.1 ha in the third year and 65.8 ha in the fourth year;
- c) *Okra*: The benefits of the project are estimated based on the revenues generated through the production of okra of 8,000 kg per ha and a price per kg of CFAF 1,000, from which an estimated loss of 5% of total production is subtracted. The investment cost per hectare of land is estimated at CFAF 15,802,815. The annual production is estimated at CFAF 3,067,000 excluding subsidies and CFAF 2,748,916 including subsidies, with subsidies of close to 80 percent being applied to the cost of purchase of grains, NPK fertilizer and urea in the first two years of production. The total land area to have benefitted from this intervention, which is measured as one-third of the total land area benefitting from horticulture production, is 29.1 ha in the first and second year following the investment cost, 39.1 ha in the third year and 65.8 ha in the fourth year.
- d) *Bignona platform*: The value-added of products circulating through the Bignona platform is estimated at CFAF 38,252 per ton, or 80 percent of the estimated price ex-platform of CFAF 47,815 per ton. The volume of products circulating through the platform is estimated at 262 tons in the year 1 following the investment cost, 339 tons in year 2 (actual volume recorded on a pilot basis in 2019 and 2020), 439 tons in year 3, 567 tons in year 4 with projections of 13,000 tons in year 5 and 25,000 tons starting in year 8, which are kept constant until the end of the projected time horizon.<sup>24</sup> For the computation of the financial analysis, the fees charged to the users of the platform are assumed to be equivalent to 30 percent of the

<sup>24</sup> The low volume of products circulating through the platform in the first two years is explained by the fact the two first years were used as a pilot of the larger project which was about to be deployed.



value-added on products. The investment cost is estimated at CFAF 267,266,578 and the annual cost to operate the platform are estimated to be equivalent to 16 percent of the total value-added (i.e., 10 percent of total value-added in labor cost, 5 percent of total value-added in maintenance cost and 1 percent of total value-added in exploitation cost).

- e) *Road rehabilitation and maintenance:* The economic analysis assumes that the initial investment cost is CFAF 51 million per km, that the annual spot maintenance cost is CFAF 1 million per km and that the periodic maintenance, conducted every five years, is 10 million FCFA per km. We assume that the benefits of the road rehabilitation and maintenance consist in the value of increased market access for producers of CFAF 12 million per km (which rises by 1.3% per year), the reduced periodic maintenance cost of CFAF 3 million per km applied every five years, and the reduced vehicle operating cost of CFAF 16.6 million per km<sup>25</sup>. The analysis assumes a total length of road of 199 km.

**Results of the Economic and Financial Analysis**

- 8. **Economic and Financial Analysis of Income Generating (IG) Activities (rice and horticulture crops).** The results of the financial analysis, with and without the subsidy, and of the economic analysis provide evidence of solid net returns of PPDC’s IG activities. The Net Present Values (NPV) are positive and the internal rates of return are in excess of the annual discount rate of 12 percent for the financial analysis and 6 percent for the economic analysis. The much higher NPV recorded for the production of chili pepper and okra compared to the production of rice is explained by their much higher labor-intensive production process (requiring eight agricultural workers for hectare of land compared to one agricultural worker per hectare of land for the production of rice). The comparison of the results of the financial analysis with and without the subsidy also reveals that subsidizing inputs for the production of rice significantly enhances the results of the NPV and the IRR. In addition to improving the profitability and the welfare of smallholders, the subsidy is justified by the fact that smallholders find it difficult to cover the negative cash-flow of improved production during the first year of the production process given that improved production requires higher upfront out-of-pocket costs which the farmer would not be able to afford in the absence of a seasonal credit from lending institutions.

**Table 1 : Economic and Financial Analysis of Rice and Horticulture Production Per Hectare of Land**

	Rainfed rice	Horticulture	
		Chili pepper	Okra
<b>Financial Analysis</b>			
- NPV (CFAF ‘000 /ha)			
• With subsidy	236	25,673	18,124
• Without subsidy	80	25,135	17,586
- IRR (%)			
• With subsidy	37.8	29.5	29.3
• Without subsidy	17.5	28.9	28.4
<b>Economic Analysis</b>			
- NPV (CFAF ‘000/ha)	201	41,940	29,560
- IRR (%)	17.5	28.9	28.4

<sup>25</sup> See AGEROUTE Final Report 2019



9. **Return on Investments of the Integrated Economic Platform of Bignona (IEPB).** The financial and economic analysis of the Bignona platform yielded positive results in terms of the NPV and the IRR, this latter well above the discount rate. The financial return is predicated on the current tariffs established for the services being provided by the platform using as a proxy 30 percent of the value added to products. In comparison, the actual tariff schedule as reported by the IEPB Annual Report for the campaign 2019 indicate that the tariffs may be on the low side as they fail to take into account fully the initial investment costs which covered by PPDC. The financial return clearly would be higher if the users were to pay the full cost of the services, reflecting not only to operating costs, but also the investment costs as appropriately apportioned to the tariff for these services. Also, the return is conservative as computations were based on IEPB reaching 25,000 tons at full capacity when the platform is designed potentially to handle up to 54,000 tons. Increasing the volume of products handled by IEPB and having the facility work continuously year-round would increase the return on investments.

**Table 2: Return on Investments of the Bignona Platform**

Financial Analysis	
• NPV ('000 CFAF)	808,292
• IRR (%)	27.2
Economic Analysis	
• NPV ('000 CFAF)	4,394,467
• IRR (%)	44.6

10. **Cost-Effectiveness Analysis of spot improvement and periodic rehabilitation of rural roads.**

**Table 3: Cost-Effectiveness Analysis (CEA) of Spot Improvement and Periodic Rehabilitation of roads**

	PPDC	Other projects
	US\$ / km	
<b>Spot improvement (260 km)</b>		
Motorized Maintenance <sup>1</sup>	15,900	23,000
Maintenance with High Intensity Labor (HIMO) <sup>2/</sup>	3,500	
<b>Periodic Maintenance (200 km)</b>		
Road Rehabilitation	67,500 <sup>3</sup>	78,000

<sup>1</sup> 220/ 222 km <sup>2</sup> 40/ 38 km <sup>3</sup>/ Weighed average of cost of roads being rehabilitated under PPDC.

11. **Economic Analysis of periodic maintenance/rehabilitation of rural roads.** The results of the economic analysis point to strong outcomes in terms of the NPV and the IRR, the latter being well above the discount rate of 6 percent used.

**Table 4 : Economic Analysis of Periodic Maintenance/Rehabilitation of Rural Roads (200 km).**

• NPV (US\$)	41,368,235
• IRR (%)	53.1



12. **Project economic and sensitivity analysis.** The ex-post NPV and the IRR for the economic analysis of the overall project is positive<sup>26</sup>, with the IRR remaining well above the discount rate of 6 percent. Furthermore, a sensitivity analysis which factors in the possibility for three downside scenarios (i.e., decrease in benefits of 20 percent, increase in costs by 20 percent and reduced benefits of the road rehabilitation and maintenance project by 10 percent, also yielded positive results, suggesting that the project would therefore be immune to potential downside scenarios within a reasonable margin.

**Table 5 : Project Economic and Sensitivity Analysis**

	<b>NPV (US\$ M)</b>	<b>ERR (%)</b>
<b>Base scenario<sup>1</sup></b>	67,217,268	30.8
<b>Sensitivity analysis</b>		
• Decrease in overall benefits of 10%	16,619,846	13.6
• Increase in overall costs by 10%	22,633,757	15.2
• Reduced road benefits by 20%	60,653,406	27.7
	<b>NPV (US\$ M)</b>	<b>ERR (%)</b>
<b>Base scenario<sup>1</sup></b>	67,217,268	30.8
<b>Sensitivity analysis</b>		
• Decrease in overall benefits of 10%	16,619,846	13.6
• Increase in overall costs by 10%	22,633,757	15.2
• Reduced road benefits by 20%	60,653,406	27.7

<sup>1</sup>

Selected project benefits vs. all project costs

<sup>26</sup> NB. The ex-ante economic analysis (see PAD) was not done for PPDC as a whole. It was performed independently for crop enterprises (rice and horticulture), the Bignona platform, as well as the roads individual project components.



## ANNEX 5. BORROWER, CO-FINANCIER AND OTHER PARTNER/STAKEHOLDER COMMENTS

After reviewing the final completion report, the following comments were made on April 28, 2021 by the Ministry of Territorial Collectivities and Land Management (MCTDAT) in coordination with the Ministry of Finance and Budget.

- A very comprehensive report, with a very relevant economic and financial analysis;
  - A well-documented analysis that addresses all the activities of the logical framework of intervention.
- For this reason, the MCTDAT validates the report subject to the following aspects being taken into account:
- It would be relevant to introduce a point on the "sustainability" dimension as an analysis criterion in the image of relevance, effectiveness and efficiency, and to introduce it in point 48 of the report.
  - Before the results, the MCTDAT suggests introducing a Chapter II that deals with factors affecting implementation and results. This chapter II could address factors in the (i) project preparation and design phase and (ii) implementation phase.
  - On page 19, before results, it is suggested that a Chapter II be introduced that addresses factors affecting implementation and results. This chapter II could address factors in the (i) project preparation and design phase and the implementation phase.
  - On page 23, it would be important to say something about the sustainability of CECs and PMMs, especially in the context of the implementation of Act 3 of decentralization, with the establishment of participation as a principle.
  - On page 27, point 49, this chapter (Other results and impacts) could be entitled "Overall themes, other results and impacts".
  - On page 29, item 55, If the evaluation included a survey of beneficiaries, it would be important to summarize the findings of the survey. If not, it is not applicable
  - In point 56, on page 25, it would be useful to analyze the institutional anchoring of the project at the level of the Presidency, in order to better characterize this option at the end of the implementation of activities.
  - In point 58, the wording should be revised: "This was modified during the first year of project implementation to be better aligned with Act 3 of the national decentralization process adopted in 2013" and replaced by "This was modified during the first year of project implementation to be more autonomous in terms of management and deployment.
  - In point 76, delete the following wording: "the objective of Act 3 was to bypass the ARDS and focus directly on departments with a single entity responsible for the Casamance development pole" and replace it with: "since one of the objectives pursued by Act 3 was to ensure clarification and simplification of the scales of governance, it was more appropriate to limit the ARD to its role of assisting the project owner and not give it a primary role in the ownership of a project."
  - In point 83, replace "to ARDs" with "to local authorities".
  - In point 83, it is important to allow the PIU to give its comments
  - Add a point 91 on recommendations and lessons learned with this wording: The empowerment of the territorial communities, in their mission of project ownership in relation to the treatment of critical points and the maintenance of rural roads of the unclassified network, especially in a context of Act 3 of decentralization, ensures a sustainability of investments. In addition, the participatory dimension noted in the implementation of the CECs and especially the PGMs with citizens deserves to be deepened and



extended to the local authorities. It is true that the involvement of local authorities has never been lacking, but it is useful to focus on the maintenance of achievements, their optimization and their full exploitation for the benefit of communities. In addition, there is a need to strengthen the link between community development and local development, the beginnings of which were noted during the implementation of the PPDC.



ANNEX 6. MAP

